

Perry 1

Initiating Events

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)

Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure I01-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations.

Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating

condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Last modified : April 01, 2002

Perry 1

Initiating Events

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)

Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity

Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Emergency Preparedness

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations.

Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating

condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Last modified : April 01, 2002

Perry 1

Initiating Events

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

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Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

Significance: Aug 04, 2000

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Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

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Inspection Report# : [2000009\(pdf\)](#)

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

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Inspection Report# : [2000008\(pdf\)](#)

Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)

Barrier Integrity

Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Emergency Preparedness

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations.

Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Last modified : March 29, 2002

Perry 1

Initiating Events



Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)



Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)

Mitigating Systems

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)



Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)



Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)



Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)



Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Barrier Integrity



Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Emergency Preparedness



Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010](#)(pdf)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations. Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011](#)(pdf)

Last modified : March 28, 2002

Perry 1

Initiating Events



Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)



Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)

Mitigating Systems



Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

G

Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)

G

Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)

G

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

G

Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

Barrier Integrity

Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Emergency Preparedness

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010](#)(pdf)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations.

Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011](#)(pdf)

Last modified : March 28, 2002

Perry 1

Initiating Events



Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)



Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Mitigating Systems



Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

**Significance:** Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)**Significance:** N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)**Significance:** N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)**Significance:** Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)**Significance:** Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)**Significance:** Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)



Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Barrier Integrity



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)



Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness



Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations.

Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Last modified : March 27, 2002

Perry 1

Initiating Events



Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)



Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Mitigating Systems



Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)



Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)



Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

Inspection Report# : [2001016\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations.

Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Last modified : March 26, 2002

Perry 1

Initiating Events

G**Significance:** Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)**G****Significance:** May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)**G****Significance:** Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

G**Significance:** Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)**G****Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited

Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)



Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)



Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor

core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)



Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations. Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Perry 1

Initiating Events



Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Remove Temporary Lights From the Reactor Water Cleanup Heat Exchanger Room After One Cycle

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion III, for failure to remove temporary lighting from the reactor water cleanup room after one-cycle as required by Field Clarification Request. The lights eventually degraded and caught fire. The finding was greater than minor because it had an actual impact of causing a small fire in a room containing plant operating, fire protection and safety-related equipment. The event was of very low safety significance because, although the finding contributed to the likelihood of an external event initiator, no equipment was damaged from the event.

Inspection Report# : [2001016\(pdf\)](#)



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)



Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)



Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion V, for failing to follow plant procedures to maintain electrical separation between Class 1E and Non-class 1E cables and conduits. The finding was greater than minor because if left uncorrected, routing the extension cords near safety-related power cables increased the likelihood of rendering multiple trains of safety-related equipment inoperable given a fire from those temporary cables. Further, the multiple examples of violating the electrical separation criteria indicated a lack of plant personnel knowledge of the requirement. The finding was of low safety significance because an actual fire had not occurred that rendered the associated equipment unavailable.

Inspection Report# : [2001016\(pdf\)](#)

Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)



Significance: May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness



Significance: Apr 12, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate critique of certain exercise controller and participant actions in the Operations Support Center

The licensee's exercise critique did not identify inappropriate exercise controller interactions with some participants who were involved in Operations Support Center (OSC) activities. Specifically, on multiple occasions various participants were given information by a licensee exercise controller during the exercise before they had opportunities to demonstrate how they would either earn such information or how they could identify and correct mis-information. Also, the licensee's critique did not identify a few instances of exercise participants' failure to implement adequate protective measures associated with OSC activities. The NRC has determined that the above finding on the inadequate critique of certain OSC controller and exercise participants' performances was of very low safety significance (Green). In accordance with NRC's Enforcement Policy, the critique issue is not a violation of NRC requirements since it was associated with an exercise, rather than with an actual emergency response.

Inspection Report# : [2002003\(pdf\)](#)

Occupational Radiation Safety



Significance: Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)**Significance:** N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)**Significance:** N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations. Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)**Significance:** N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required. However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)**Significance:** N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Perry 1

Initiating Events

Significance: G Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures While Paralleling to the Grid

The inspectors identified a Non-Cited Violation of Technical Specification 5.4.1.a for failure to follow procedures while paralleling to the grid. Licensee personnel failed to verify synchronization prior to closure of a main generator output breaker. The finding was of very low safety significance because the event did not effect the likelihood of a loss of coolant accident, contribute to both a scram and loss of mitigation equipment, nor increase the likelihood of flooding or fire.

Inspection Report# : [2002005\(pdf\)](#)

Significance: G Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Remove Temporary Lights From the Reactor Water Cleanup Heat Exchanger Room After One Cycle

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion III, for failure to remove temporary lighting from the reactor water cleanup room after one-cycle as required by Field Clarification Request. The lights eventually degraded and caught fire. The finding was greater than minor because it had an actual impact of causing a small fire in a room containing plant operating, fire protection and safety-related equipment. The event was of very low safety significance because, although the finding contributed to the likelihood of an external event initiator, no equipment was damaged from the event.

Inspection Report# : [2001016\(pdf\)](#)

Significance: G Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Significance: G May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss

of main condenser vacuum was leaking manway covers on the moisture separator reheater (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)

Significance: G Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

Significance: G Jun 30, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate Posting of Protected Equipment During Risk Significant Maintenance Activities

The inspectors identified a licensee performance deficiency associated with the protection of Emergency Service Water 'B' and 'C' trains during a Division 1 ('A' train) outage. Although the 'B' and 'C' pumps were posted as protected equipment, the motor control centers were not. The finding was of very low safety significance because, although the inspectors observed considerable work activities in the immediate vicinity of the motor control centers, the mitigation systems remained operable.

Inspection Report# : [2002005\(pdf\)](#)

Significance: G Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct Procedure Deficiency Involving Surveillance Test Equipment

A Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI for failure to ensure conditions adverse to quality are corrected. The licensee failed to correct a previously identified procedure deficiency associated with test equipment used to test the level 3 and level 8 Reactor Protection System and Residual Heat Removal shutdown insulation functions. As a result, during the April 2002 performance of the 24-month surveillance, the licensee experienced a similar failure. The finding was of very low safety significance because, although the procedure deficiency had an actual impact causing the loss of one channel of level protective functions for several hours, no actual loss of safety function occurred.

Inspection Report# : [2002005\(pdf\)](#)

Significance:  Jun 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate Instrument Uncertainty Into Design Basis Calculations and Procedures

(GREEN) The inspection team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the emergency service water system forebay temperature limit was not properly incorporated into plant procedures. Specifically, the plant procedures did not include margin to account for temperature instrument uncertainty. As a result, the emergency service water forebay temperature could have exceeded its design limit during plant operation without being detected. The finding was greater than minor because it impacted the ability of the emergency service water system to perform its design basis function and lake temperatures had previously approached the design basis limit. The finding was of low safety significance because the emergency service water system was operable. (Section 1R21.1).

Inspection Report# : [2002004\(pdf\)](#)

Significance:  Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion V, for failing to follow plant procedures to maintain electrical separation between Class 1E and Non-class 1E cables and conduits. The finding was greater than minor because if left uncorrected, routing the extension cords near safety-related power cables increased the likelihood of rendering multiple trains of safety-related equipment inoperable given a fire from those temporary cables. Further, the multiple examples of violating the electrical separation criteria indicated a lack of plant personnel knowledge of the requirement. The finding was of low safety significance because an actual fire had not occurred that rendered the associated equipment unavailable.

Inspection Report# : [2001016\(pdf\)](#)

Significance:  Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)

Significance:  Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other

dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)

Significance: G Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

Significance: G Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor

CO₂ system. This was a violation of the facilities license condition. The CO₂ system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)



Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)



Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity



Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS.

Inspection Report# : [2001015\(pdf\)](#)

Significance:  May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness

Significance:  Apr 12, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate critique of certain exercise controller and participant actions in the Operations Support Center

The licensee's exercise critique did not identify inappropriate exercise controller interactions with some participants who were involved in Operations Support Center (OSC) activities. Specifically, on multiple occasions various participants were given information by a licensee exercise controller during the exercise before they had opportunities to demonstrate how they would either earn such information or how they could identify and correct mis-information. Also, the licensee's critique did not identify a few instances of exercise participants' failure to implement adequate protective measures associated with OSC activities. The NRC has determined that the above finding on the inadequate critique of certain OSC controller and exercise participants' performances was of very low safety significance (Green). In accordance with NRC's Enforcement Policy, the critique issue is not a violation of NRC requirements since it was associated with an exercise, rather than with an actual emergency response.

Inspection Report# : [2002003\(pdf\)](#)

Occupational Radiation Safety

Significance:  Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015](#)(pdf)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010](#)(pdf)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations. Formal root cause evaluations were thorough. Corrective actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more

in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required.

However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Last modified : August 29, 2002

Perry 1

Initiating Events

Significance: Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures While Paralleling to the Grid

The inspectors identified a Non-Cited Violation of Technical Specification 5.4.1.a for failure to follow procedures while paralleling to the grid. Licensee personnel failed to verify synchronization prior to closure of a main generator output breaker. The finding was of very low safety significance because the event did not effect the likelihood of a loss of coolant accident, contribute to both a scram and loss of mitigation equipment, nor increase the likelihood of flooding or fire.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Remove Temporary Lights From the Reactor Water Cleanup Heat Exchanger Room After One Cycle

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion III, for failure to remove temporary lighting from the reactor water cleanup room after one-cycle as required by Field Clarification Request. The lights eventually degraded and caught fire. The finding was greater than minor because it had an actual impact of causing a small fire in a room containing plant operating, fire protection and safety-related equipment. The event was of very low safety significance because, although the finding contributed to the likelihood of an external event initiator, no equipment was damaged from the event.

Inspection Report# : [2001016\(pdf\)](#)

Significance: Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

PROCEDURE FOR REACTOR VESSEL LEVEL NOT FOLLOWED

The inspectors identified a Non-Cited Violation for failure to follow procedures for controlling reactor vessel level within the required band. This issue was determined to be of very low safety significance because all mitigating systems remained available and no pressure or temperature limits were exceeded.

Inspection Report# : [2001015\(pdf\)](#)

Significance: May 18, 2001

Identified By: Self Disclosing

Item Type: FIN Finding

Incorrect torque applied to moisture separator reheat drain tank manway covers resulted in loss of condenser vacuum after a reactor scram.

An unplanned manual scram on April 29, 2001 was complicated by a loss of condenser vacuum. The cause of the loss of main condenser vacuum was leaking manway covers on the moisture separator reheat (MSR) drain tanks. The manway covers had been worked on during the recent refueling outage (March 2001) and leaked during the event because incorrect torque values had been used during reassembly. This finding was of very low safety significance because the issue affected only the initiating event "transient without power conversion system available" and did not

increase the likelihood of any other initiating events or impact any mitigation systems.

Inspection Report# : [2001008\(pdf\)](#)

Significance: Dec 31, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Use of an inadequate test procedure resulted in one safety relief valve unexpectedly opening during testing.

As a result of an inadequate test procedure, one safety relief valve unexpectedly opened during testing on December 18, 2000. The procedure failed to provide instructions to reset the low set logic before applying an input signal to the trip unit. A Non-Cited Violation was identified for the inadequate procedure. The finding was of very low safety significance because, although the issue increased the frequency of an initiating event, all mitigation systems were available during the event. The inspectors used the Perry-specific worksheets in the Phase 2 Significance Determination Process (SDP) analysis to assess the safety significance of the issue.

Inspection Report# : [2000014\(pdf\)](#)

Mitigating Systems

Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE FOR THE ROD CONTROL AND INFORMATION SYSTEM

Green. The inspectors identified a NCV of 10 CFR 50.65 (a)(2) for the licensee's failure to demonstrate that the performance of the rod control and information system (RCIS) was being effectively controlled through the performance of appropriate maintenance. The licensee's failure to consider the rod insertion function of the RCIS when evaluating system performance was determined to be the cause of the error. The issue was evaluated as having very low risk significance (Green) since, although the mitigation system cornerstone was affected in that reactivity control was degraded by loss of a RCIS safety, no actual loss rod insertion ability occurred due to other methods being available. (Section 1R12)

Inspection Report# : [2002006\(pdf\)](#)

Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR IMPROPERLY FUNTIONING CONTROL ROOM INDICATIONS

Green. The inspectors identified a NCV of Technical Specification (TS) 5.4 for the licensee's failure to follow procedures regarding tagging of improperly reading equipment. The primary cause was the crosscutting issue of human performance since the technicians and operators failed to recognize out-of-specification data in the partially completed surveillance indicated equipment degradation. The finding was more than minor because an indication used by control room personnel for vessel level did not read correctly and under other circumstances a failure of a control function could have been overlooked. The finding was of low safety significance because no loss of automatic protective functions occurred and other indications of vessel level were available to operators. (Section 1R22)

Inspection Report# : [2002006\(pdf\)](#)

Significance: Jun 30, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate Posting of Protected Equipment During Risk Significant Maintenance Activities

The inspectors identified a licensee performance deficiency associated with the protection of Emergency Service Water 'B' and 'C' trains during a Division 1 ('A' train) outage. Although the 'B' and 'C' pumps were posted as protected equipment, the motor control centers were not. The finding was of very low safety significance because, although the inspectors observed considerable work activities in the immediate vicinity of the motor control centers, the mitigation systems remained operable.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct Procedure Deficiency Involving Surveillance Test Equipment

A Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI for failure to ensure conditions adverse to quality are corrected. The licensee failed to correct a previously identified procedure deficiency associated with test equipment used to test the level 3 and level 8 Reactor Protection System and Residual Heat Removal shutdown insulation functions. As a result, during the April 2002 performance of the 24-month surveillance, the licensee experienced a similar failure. The finding was of very low safety significance because, although the procedure deficiency had an actual impact causing the loss of one channel of level protective functions for several hours, no actual loss of safety function occurred.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Jun 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate Instrument Uncertainty Into Design Basis Calculations and Procedures

(GREEN) The inspection team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the emergency service water system forebay temperature limit was not properly incorporated into plant procedures. Specifically, the plant procedures did not include margin to account for temperature instrument uncertainty. As a result, the emergency service water forebay temperature could have exceeded its design limit during plant operation without being detected. The finding was greater than minor because it impacted the ability of the emergency service water system to perform its design basis function and lake temperatures had previously approached the design basis limit. The finding was of low safety significance because the emergency service water system was operable. (Section 1R21.1).

Inspection Report# : [2002004\(pdf\)](#)

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion V, for failing to follow plant procedures to maintain electrical separation between Class 1E and Non-class 1E cables and conduits. The finding was greater than minor because if left uncorrected, routing the extension cords near safety-related power cables increased the likelihood of rendering multiple trains of safety-related equipment inoperable given a fire from those temporary cables. Further, the multiple examples of violating the electrical separation criteria indicated a lack of plant personnel knowledge of the requirement. The finding was of low safety significance because an actual fire had not occurred that rendered the associated equipment unavailable.

Inspection Report# : [2001016\(pdf\)](#)



Significance: Nov 18, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURES FOR SLUICE GATE MAINTENANCE

The licensee failed to have procedures appropriate to the circumstances to prescribe maintenance on the emergency service water sluice gates. As a result, all three trains of emergency service water were rendered inoperable for the periods of time that the gates were disabled in the open position. This was considered to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V. This issue was determined to be of very low safety significance due to the availability of the nonsafety-related service water system and credit for manual operator action, either of which would fully mitigate the adverse effects of the open sluice gates.

Inspection Report# : [2001013\(pdf\)](#)



Significance: Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Design Control of Modification to EDG Dampers

The licensee's failure to properly control the design, manufacture, and installation of a modification to the emergency diesel generator ventilation system was self-revealed during post-maintenance testing. One damper failed and other dampers showed evidence of degradation. A Non-Cited Violation was identified for inadequate design control. The finding was of very low safety significance because, although supporting equipment for a mitigating system was failed or degraded, the allowed outage time for the mitigating system was not exceeded. The inspectors used the Phase 1 worksheet to assess the safety significance of the issue.

Inspection Report# : [2001009\(pdf\)](#)



Significance: Feb 24, 2001

Identified By: NRC

Item Type: FIN Finding

Inadequate engineering review for the Inclined Fuel Transfer System

As a result of inadequate engineering reviews, the inventory in the suppression pool makeup system was potentially impacted when the inclined fuel transfer system blind flange was removed at power. This issue was reported to the NRC as LER 50-440/2000-001. The finding was of very low safety significance because, although the issue potentially impacted a mitigating system, the duration was small and there was a nonsafety-related valve in the system that maintained the water inventory.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Nov 15, 2000

Identified By: NRC

Item Type: FIN Finding

Supplemental Inspection for Safety System Unavailability - Heat Removal System Performance Indicator

This supplemental inspection was conducted by the NRC to assess the licensee's evaluation associated with the white performance indicator (PI) for Safety System Unavailability, Heat Removal System for 2nd Quarter, 2000. The inspection was conducted by the Senior Resident Inspector. During this supplemental inspection, which was conducted in accordance with Inspection Procedure 95001, the inspector concluded that the licensee conducted an adequate evaluation of the reactor core isolation cooling (RCIC) system unavailability time that resulted in the white PI, that the extent of condition was appropriately addressed, and that corrective actions were initiated to prevent recurrence of this issue. During the 3rd Quarter, 2000, the PI data for the RCIC system returned to the green band. No findings were identified during this inspection.

Inspection Report# : [2000013\(pdf\)](#)

Significance: N/A Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to update procedures

The team identified that Attachment 2 of procedure ONI-P54, "Off-Normal Instruction - Fire," Revision 3, did not include potential fire impacts upon selected RHR valves in Room 1CC-3a and CC-2a, despite the fact that such potential impacts were identified in the safe shutdown capability report (SSCR). Failure to update procedure ONI-054, in a timely manner, to include information used to alert operators as to which components could be potentially impacted by a fire is considered a nonconforming condition and is an example of a violation of Perry's license condition (Section 1R05.1).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Nov 02, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address extended inoperability of the control room sub floor CO2 system.

The team determined that the licensee failed to promptly address extended inoperability of the control room subfloor CO2 system. This was a violation of the facilities license condition. The CO2 system inoperability resulted in an extended degradation of the manual fire fighting capability, one of the defense-in-depth elements for fire protection, for the control room (Section 1R05.12).

Inspection Report# : [2000010\(pdf\)](#)

Significance: Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to promptly correct a degraded emergency closed cooling system motor-operated valve

Green. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," concerning the failure of licensee personnel to take prompt corrective actions after testing showed significant degradation in seating torque for an emergency closed cooling (ECC) system motor-operated valve. Although the condition was identified and documented by the licensee, corrective action was not taken to evaluate and address the condition for six months. The finding was of very low safety significance because the ECC system would remain functional even if the valve failed to close.

Inspection Report# : [2000009\(pdf\)](#)

Significance: Jul 16, 2000

Identified By: NRC

Item Type: FIN Finding

Failure to properly implement the on-line risk assessment for a Division 1 maintenance outage.

Green. While reviewing the licensee's implementation of the on-line risk assessment for a Division I outage, the inspectors identified that the licensee failed to properly implement the on-line risk assessment for a Division I outage. Specifically, control room operators placed the reactor core isolation cooling (RCIC) system in a secured status rather than in standby readiness as was planned in the risk assessment. This resulted in the RCIC system being unavailable for a station blackout event without operator action. The issue was considered to be of very low safety significance because it resulted in only slightly higher plant risk than originally planned and other mitigating systems were available during the outage.

Inspection Report# : [2000008\(pdf\)](#)

Significance:  Dec 29, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INOPERABLE CONTAINMENT ISOLATION VALVE

The inspectors identified a Non-Cited Violation for failure to follow procedures for invoking a Technical Specification (TS) when a containment isolation valve failed to automatically close upon receipt of an isolation signal. The failure of the valve to automatically close was not made known to the oncoming shift crew and as a result, the operability of the valve was unknown for approximately 14 hours. This finding was determined to be of very low safety significance because the redundant isolation valve remained operable and the actual duration did not exceed allowable times per TS. Inspection Report# : [2001015\(pdf\)](#)

Significance:  May 15, 2000

Identified By: Licensee

Item Type: FIN Finding

Both trains of annulus exhaust gas treatment system inoperable.

Green. The licensee identified that both trains of the annulus exhaust gas treatment system were inoperable at the same time. The licensee entered Technical Specification 3.0.3. The condition was restored within approximately four hours. This issue was determined to have very low risk significance because the system inoperability has minimal impact on large early release frequency (LERF).

Inspection Report# : [2000003\(pdf\)](#)

Emergency Preparedness

Significance:  Apr 12, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate critique of certain exercise controller and participant actions in the Operations Support Center

The licensee's exercise critique did not identify inappropriate exercise controller interactions with some participants who were involved in Operations Support Center (OSC) activities. Specifically, on multiple occasions various participants were given information by a licensee exercise controller during the exercise before they had opportunities to demonstrate how they would either earn such information or how they could identify and correct mis-information. Also, the licensee's critique did not identify a few instances of exercise participants' failure to implement adequate protective measures associated with OSC activities. The NRC has determined that the above finding on the inadequate critique of certain OSC controller and exercise participants' performances was of very low safety significance (Green). In accordance with NRC's Enforcement Policy, the critique issue is not a violation of NRC requirements since it was associated with an exercise, rather than with an actual emergency response.

Inspection Report# : [2002003\(pdf\)](#)

Occupational Radiation Safety

Significance:  Feb 20, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Adequately Barricade A Locked High Radiation Area

On 2/20/01 two maintenance workers were assigned to a job in the steam tunnel pit. One worker left and locked the other worker (with his knowledge) in the area. The worker who left the area lost the Locked High Radiation Area gate key and reported this to radiation protection. An RP technician directed the worker inside the LHRA to leave by climbing over the waist high gate. The area was also defined by a safety railing which could easily be climbed through. The locked gate and safety railing did not constitute an adequate barrier to preclude unauthorized entry. In a second example, a traversing incore probe area did not have an adequate barrier as the concrete wall that formed part of the barrier had an opening large enough to crawl through.

Inspection Report# : [2001006\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: SL-III Dec 31, 2001

Identified By: NRC

Item Type: VIO Violation

EMPLOYEE PROTECTION

On May 31, 2001, the NRC Atomic Safety and Licensing Board issued a Memorandum and Order Approving the Settlement Agreement and Terminating Proceeding between the NRC and FirstEnergy Nuclear Operating Company (EA-99-012). The agreement provided for an \$80,000 civil monetary penalty based on a Severity Level III Violation of 10 CFR 50.7.

Inspection Report# : [2001015\(pdf\)](#)

Significance: N/A Aug 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Operators failed to perform a TS required surveillance to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core.

Technical Specification 3.3.1.1.6 requires that the licensee verify the source range monitor (SRM) and intermediate range monitor (IRM) channel overlap prior to withdrawing the SRMs from the fully inserted position. Technical Specification 5.4.1 requires, in part, that written procedures/instructions shall be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, specifies hot standby to minimum load (nuclear startup) as an example of a general plant operating procedure. During the plant startup on July 29, 2001, operators failed to perform the TS required surveillance in that they failed to record the overlap data between the SRM and the IRM prior to withdrawing the SRMs from the core as required by procedure IOI-1, Cold Startup.

Inspection Report# : [2001010\(pdf\)](#)

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection Results

The team concluded that the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on a low condition report initiation threshold. Licensee audits and assessments identified issues similar to NRC observations. Formal root cause evaluations were thorough. Corrective

actions specified were appropriate based on the identified causes and were effective in preventing recurrence of significant conditions adverse to quality. Plant staff willingness to identify safety issues and a low threshold for initiating condition reports supported a safety conscious work environment. However, room for improvement in the areas of evaluation of issues and corrective actions still exists. Some evaluations could have been more rigorous. Extent of condition reviews could be broader in scope. Several equipment failure problems could have been assigned a more in-depth evaluation method. A few equipment related condition reports were not immediately reviewed by licensed operators. Operators could benefit from Generic Letter 91-18 operability guidance training to ensure accurate operability determinations.

Inspection Report# : [2001011\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: FIN Finding

Effectiveness of Problem Identification and Resolution

The inspectors concluded that the licensee effectively identified and corrected plant problems. The problem identification threshold within the condition report process was generally low, although a few safety-related equipment problems were not initially entered into the condition report system until prompted by the NRC, in part due to the lack of a well-defined threshold for initiating condition reports. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were normally completed as required.

However, procedural requirements for control room personnel to evaluate operability and reportability aspects of issues in condition reports were not always followed. Corrective actions were normally timely and effective in preventing recurrence of problems. Audits and self-assessments were good evaluations and identified issues for the licensee to resolve. Plant staff acknowledged a responsibility to identify and report safety issues.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 04, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure requirements for condition report review

No Color. The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," concerning the failure of licensee personnel to always follow the procedural requirements for control room personnel to review condition reports involving plant equipment problems. Since this finding did not affect a cornerstone of safety, it was not assessed with the Significance Determination Process, and was not assigned a color.

Inspection Report# : [2000009\(pdf\)](#)

Last modified : December 02, 2002

Perry 1

Initiating Events



Significance: Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures While Paralleling to the Grid

The inspectors identified a Non-Cited Violation of Technical Specification 5.4.1.a for failure to follow procedures while paralleling to the grid. Licensee personnel failed to verify synchronization prior to closure of a main generator output breaker. The finding was of very low safety significance because the event did not effect the likelihood of a loss of coolant accident, contribute to both a scram and loss of mitigation equipment, nor increase the likelihood of flooding or fire.

Inspection Report# : [2002005\(pdf\)](#)



Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Remove Temporary Lights From the Reactor Water Cleanup Heat Exchanger Room After One Cycle

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion III, for failure to remove temporary lighting from the reactor water cleanup room after one-cycle as required by Field Clarification Request. The lights eventually degraded and caught fire. The finding was greater than minor because it had an actual impact of causing a small fire in a room containing plant operating, fire protection and safety-related equipment. The event was of very low safety significance because, although the finding contributed to the likelihood of an external event initiator, no equipment was damaged from the event.

Inspection Report# : [2001016\(pdf\)](#)

Mitigating Systems

Significance: TBD Dec 28, 2002

Identified By: Self Disclosing

Item Type: AV Apparent Violation

HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

To Be Determined. An apparent self-revealed violation of technical specification (TS) 5.4 occurred when the High Pressure Core Spray (HPCS) pump failed to start during a surveillance test of the HPCS room cooler. Troubleshooting by the licensee revealed that contacts in the breaker enclosure that provide a close permissive signal were misaligned and prevented starting of the HPCS pump. Since the last breaker replacement, the licensee had performed one post-maintenance test and two inspections of the circuit breaker that would have detected the misalignment of contacts had the procedure been properly followed. The finding is identified as Apparent Violation (AV) 50-440/02-08-02. The NRC assessed this finding through phase 3 of the SDP and made a preliminary determination that it is an issue with some increased importance to safety. (Section 4OA3.3)

Inspection Report# : [2002008\(pdf\)](#)



Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE FOR THE ROD CONTROL AND INFORMATION SYSTEM

Green. The inspectors identified a NCV of 10 CFR 50.65 (a)(2) for the licensee's failure to demonstrate that the performance of the rod control and information system (RCIS) was being effectively controlled through the performance of appropriate maintenance. The licensee's failure to consider the rod insertion function of the RCIS when evaluating system performance was determined to be the cause of the error. The issue was evaluated as having very low risk significance (Green) since, although the mitigation system cornerstone was affected in that reactivity control was degraded by loss of a RCIS safety, no actual loss rod insertion ability occurred due to other methods being available. (Section 1R12)

Inspection Report# : [2002006\(pdf\)](#)

Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR IMPROPERLY FUNCTIONING CONTROL ROOM INDICATIONS

Green. The inspectors identified a NCV of Technical Specification (TS) 5.4 for the licensee's failure to follow procedures regarding tagging of improperly reading equipment. The primary cause was the crosscutting issue of human performance since the technicians and operators failed to recognize out-of-specification data in the partially completed surveillance indicated equipment degradation. The finding was more than minor because an indication used by control room personnel for vessel level did not read correctly and under other circumstances a failure of a control function could have been overlooked. The finding was of low safety significance because no loss of automatic protective functions occurred and other indications of vessel level were available to operators. (Section 1R22)

Inspection Report# : [2002006\(pdf\)](#)

Significance: Jun 30, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate Posting of Protected Equipment During Risk Significant Maintenance Activities

The inspectors identified a licensee performance deficiency associated with the protection of Emergency Service Water 'B' and 'C' trains during a Division 1 ('A' train) outage. Although the 'B' and 'C' pumps were posted as protected equipment, the motor control centers were not. The finding was of very low safety significance because, although the inspectors observed considerable work activities in the immediate vicinity of the motor control centers, the mitigation systems remained operable.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct Procedure Deficiency Involving Surveillance Test Equipment

A Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI for failure to ensure conditions adverse to quality are corrected. The licensee failed to correct a previously identified procedure deficiency associated with test equipment used to test the level 3 and level 8 Reactor Protection System and Residual Heat Removal shutdown insulation functions. As a result, during the April 2002 performance of the 24-month surveillance, the licensee experienced a similar failure. The finding was of very low safety significance because, although the procedure deficiency had an actual impact causing the loss of one channel of level protective functions for several hours, no actual loss of safety function occurred.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Jun 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate Instrument Uncertainty Into Design Basis Calculations and Procedures

(GREEN) The inspection team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the emergency service water system forebay temperature limit was not properly incorporated into plant procedures. Specifically, the plant procedures did not include margin to account for temperature instrument uncertainty. As a result, the emergency service water forebay temperature could have exceeded its design limit during plant operation without being detected. The finding was greater than minor because it impacted the ability of the emergency service water system to perform its design basis function and lake temperatures had previously approached the design basis limit. The finding was of low safety significance because the emergency service water system was operable. (Section 1R21.1).

Inspection Report# : [2002004\(pdf\)](#)

Significance: Feb 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures for Maintaining Electrical Separation Criteria

The inspectors identified a Non-Cited Violation of 10CFR50 Appendix B, Criterion V, for failing to follow plant procedures to maintain electrical separation between Class 1E and Non-class 1E cables and conduits. The finding was greater than minor because if left uncorrected, routing the extension cords near safety-related power cables increased the likelihood of rendering multiple trains of safety-related equipment inoperable given a fire from those temporary cables. Further, the multiple examples of violating the electrical separation criteria indicated a lack of plant personnel knowledge of the requirement. The finding was of low safety significance because an actual fire had not occurred that

rendered the associated equipment unavailable.
Inspection Report# : [2001016\(pdf\)](#)

Barrier Integrity



Significance: Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM TECHNICAL SPECIFICATION REQUIRED TESTING

Green. The inspectors identified a violation of TS surveillance requirement (SR) 3.6.1.9.1 in that the licensee failed to perform TS required surveillance testing and appropriate post-maintenance testing (PMT) following packing adjustment of a main steam shutoff valve. SR 3.6.1.9.1 specified that the licensee verify isolation times of main steam shutoff valves at a frequency in accordance with the Inservice Testing Program. The Inservice Testing Program specifically stated that following adjustment of stem packing, stroke time testing will be performed. Contrary to this requirement, no stroke time testing was performed on the valve. The inspectors also noted that the condition was further aggravated by the licensee's use of an operability determination to declare the valve operable once the missed PMT was initially identified. The licensee failed to recognize the TS compliance aspect until prompted, repeatedly, by the inspectors. The inspectors determined that the finding was more than minor because the failure to perform PMT on a safety related component could reasonably be viewed as a precursor to a significant event. The finding was of very low risk significance because, although the barrier integrity cornerstone was affected in that containment systems capability was not demonstrated through TS required surveillance testing, subsequent testing demonstrated that the system would have performed its intended safety function. (Section 1R19)

Inspection Report# : [2002008\(pdf\)](#)

Emergency Preparedness



Significance: Apr 12, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate critique of certain exercise controller and participant actions in the Operations Support Center

The licensee's exercise critique did not identify inappropriate exercise controller interactions with some participants who were involved in Operations Support Center (OSC) activities. Specifically, on multiple occasions various participants were given information by a licensee exercise controller during the exercise before they had opportunities to demonstrate how they would either earn such information or how they could identify and correct mis-information. Also, the licensee's critique did not identify a few instances of exercise participants' failure to implement adequate protective measures associated with OSC activities. The NRC has determined that the above finding on the inadequate critique of certain OSC controller and exercise participants' performances was of very low safety significance (Green). In accordance with NRC's Enforcement Policy, the critique issue is not a violation of NRC requirements since it was associated with an exercise, rather than with an actual emergency response.

Inspection Report# : [2002003\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Miscellaneous

Last modified : March 25, 2003

Perry 1 1Q/2003 Plant Inspection Findings

Initiating Events



Significance: Mar 31, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES WHEN BYPASSING LPRMs

Green. A self-revealing Non-Cited Violation of Technical Specification (TS) 5.4 occurred on January 31, 2003, when technicians bypassed two local power range monitoring (LPRM) detectors without using the appropriate procedure. As a result, average power range monitor (APRM) C was not bypassed prior to bypassing the LPRMs and the operating crew was not aware of the activities in progress.

Inspection Report# : [2003003\(pdf\)](#)



Significance: Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures While Paralleling to the Grid

The inspectors identified a Non-Cited Violation of Technical Specification 5.4.1.a for failure to follow procedures while paralleling to the grid. Licensee personnel failed to verify synchronization prior to closure of a main generator output breaker. The finding was of very low safety significance because the event did not effect the likelihood of a loss of coolant accident, contribute to both a scram and loss of mitigation equipment, nor increase the likelihood of flooding or fire.

Inspection Report# : [2002005\(pdf\)](#)

Mitigating Systems



Significance: Mar 31, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY AND CORRECT DEGRADED FIRE BARRIER

Green. The inspectors identified a licensee performance deficiency in that the licensee failed to promptly identify and correct a degraded fire barrier between the Division 3 and Division 1 switchgear rooms. The condition existed since May 2001 but was not identified until May 2002. Following identification of the degradation, the licensee established an hourly fire watch, but 10 months later had yet to correct the degraded fire barrier.

Inspection Report# : [2003003\(pdf\)](#)



Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE EXTENT OF CONDITION REVIEW FOR ECCW INOPERABILITY DUE TO SAFETY/NON-SAFETY PIPING INTERFACE

Green. The inspectors identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality in that the licensee did not recognize that during chemical addition to the emergency closed cooling water (ECCW) system, the system is cross-connected to non-safety piping. The licensee had previously identified that ECCW was rendered inoperable during periodic testing of check valves due to cross-connection with non-safety piping, but failed to thoroughly evaluate the extent of condition and recognize a similar condition existed during routine chemical additions.

Inspection Report# : [2003003\(pdf\)](#)

Significance: SL-IV Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59

The team identified a Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. Specifically, the licensee failed to complete a documented safety evaluation for a change to the facility as described in the Updated Final Safety Analysis Report that involved: 1) the incorporation of new electrical standards affecting battery maintenance and acceptance criteria, and 2) changes to a plant drawing and procedure which reduced electrical separation criteria.

Inspection Report# : [2003002\(pdf\)](#)

Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of half-couplings on a B train emergency service water elbow.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design reviews associated with the installation of half-couplings on a B train 14 inch emergency service water elbow. The licensee installed half-couplings in response to a through-wall leak and an area of wall loss identified on a 14 inch emergency service water elbow. However, the licensee's design review was inadequate in that, it failed to include the requirements of Section XI of the American Society of Mechanical Engineers Code. Specifically, the licensee failed to identify the cause of the flaw, failed to adequately characterize the dimensions of the flaw, nor was the potential growth of these flaws considered. Further, the repair design did not include flaw removal or component replacement.

Inspection Report# : [2003002\(pdf\)](#)

Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray diesel generator.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design review associated with installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray emergency diesel generator. This finding was self-revealed on October 25, 2000,

after the diesel generator was placed in service following this modification, the rupture disc failed in less than 3 minutes due to pressure induced fatigue. The licensee's design review for the rupture disc was inadequate because it did not adequately consider pressure induced fatigue loading.

Inspection Report# : [2003002\(pdf\)](#)



Significance: W Dec 28, 2002

Identified By: NRC

Item Type: VIO Violation

HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

Technical Specification 5.4 requires, in part, that procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 9, "Procedures for Performing Maintenance," recommends that maintenance activities that affect the performance of safety-related equipment should be performed in accordance with written procedures appropriate to the circumstances. Procedure GEI-0135, Revision 1, March 30, 1999, "ABB Power Circuit Breakers 5 KV Types 5HK250 and 5HK350 Maintenance," Step 15.14.3.3 requires a visual check of the cell switch normally open contacts to verify they are in the flat horizontal position prior to breaker installation. The procedure allows in a note to the step, that it may be acceptable for contact bars to not be in flat horizontal alignment provided a clear make/break of the contacts is observed. Contrary to the above, the licensee failed to implement procedure GEI-0135 during the installation and inspection of the high pressure core spray pump breaker from 1994 through October 23, 2002. Specifically, the licensee did not verify that the contacts were in the flat horizontal position prior to breaker installation or that there was a clear make/break of the contacts. This failure to verify the alignment of the contacts resulted in degradation of the connection over time and failure of the pump to start during surveillance testing on October 23, 2002.

Inspection Report# : [2002008\(pdf\)](#)



Significance: G Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE FOR THE ROD CONTROL AND INFORMATION SYSTEM

Green. The inspectors identified a NCV of 10 CFR 50.65 (a)(2) for the licensee's failure to demonstrate that the performance of the rod control and information system (RCIS) was being effectively controlled through the performance of appropriate maintenance. The licensee's failure to consider the rod insertion function of the RCIS when evaluating system performance was determined to be the cause of the error. The issue was evaluated as having very low risk significance (Green) since, although the mitigation system cornerstone was affected in that reactivity control was degraded by loss of a RCIS safety, no actual loss rod insertion ability occurred due to other methods being available. (Section 1R12)

Inspection Report# : [2002006\(pdf\)](#)



Significance: G Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR IMPROPERLY FUNCTIONING CONTROL ROOM INDICATIONS

Green. The inspectors identified a NCV of Technical Specification (TS) 5.4 for the licensee's failure to follow procedures regarding tagging of improperly reading equipment. The primary cause was the crosscutting issue of human performance since the technicians and operators failed to recognize out-of-specification data in the partially completed surveillance indicated equipment degradation. The finding was more than minor because an indication used by control

room personnel for vessel level did not read correctly and under other circumstances a failure of a control function could have been overlooked. The finding was of low safety significance because no loss of automatic protective functions occurred and other indications of vessel level were available to operators. (Section 1R22)
Inspection Report# : [2002006\(pdf\)](#)

Significance: Jun 30, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate Posting of Protected Equipment During Risk Significant Maintenance Activities

The inspectors identified a licensee performance deficiency associated with the protection of Emergency Service Water 'B' and 'C' trains during a Division 1 ('A' train) outage. Although the 'B' and 'C' pumps were posted as protected equipment, the motor control centers were not. The finding was of very low safety significance because, although the inspectors observed considerable work activities in the immediate vicinity of the motor control centers, the mitigation systems remained operable.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Jun 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct Procedure Deficiency Involving Surveillance Test Equipment

A Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI for failure to ensure conditions adverse to quality are corrected. The licensee failed to correct a previously identified procedure deficiency associated with test equipment used to test the level 3 and level 8 Reactor Protection System and Residual Heat Removal shutdown insulation functions. As a result, during the April 2002 performance of the 24-month surveillance, the licensee experienced a similar failure. The finding was of very low safety significance because, although the procedure deficiency had an actual impact causing the loss of one channel of level protective functions for several hours, no actual loss of safety function occurred.

Inspection Report# : [2002005\(pdf\)](#)

Significance: Jun 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate Instrument Uncertainty Into Design Basis Calculations and Procedures

(GREEN) The inspection team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the emergency service water system forebay temperature limit was not properly incorporated into plant procedures. Specifically, the plant procedures did not include margin to account for temperature instrument uncertainty. As a result, the emergency service water forebay temperature could have exceeded its design limit during plant operation without being detected. The finding was greater than minor because it impacted the ability of the emergency service water system to perform its design basis function and lake temperatures had previously approached the design basis limit. The finding was of low safety significance because the emergency service water system was operable. (Section 1R21.1).

Inspection Report# : [2002004\(pdf\)](#)

Barrier Integrity

Significance:  Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM TECHNICAL SPECIFICATION REQUIRED TESTING

Green. The inspectors identified a violation of TS surveillance requirement (SR) 3.6.1.9.1 in that the licensee failed to perform TS required surveillance testing and appropriate post-maintenance testing (PMT) following packing adjustment of a main steam shutoff valve. SR 3.6.1.9.1 specified that the licensee verify isolation times of main steam shutoff valves at a frequency in accordance with the Inservice Testing Program. The Inservice Testing Program specifically stated that following adjustment of stem packing, stroke time testing will be performed. Contrary to this requirement, no stroke time testing was performed on the valve. The inspectors also noted that the condition was further aggravated by the licensee's use of an operability determination to declare the valve operable once the missed PMT was initially identified. The licensee failed to recognize the TS compliance aspect until prompted, repeatedly, by the inspectors. The inspectors determined that the finding was more than minor because the failure to perform PMT on a safety related component could reasonably be viewed as a precursor to a significant event. The finding was of very low risk significance because, although the barrier integrity cornerstone was affected in that containment systems capability was not demonstrated through TS required surveillance testing, subsequent testing demonstrated that the system would have performed its intended safety function. (Section 1R19)

Inspection Report# : [2002008\(pdf\)](#)

Emergency Preparedness

Significance:  Apr 12, 2002

Identified By: NRC

Item Type: FIN Finding

Inadequate critique of certain exercise controller and participant actions in the Operations Support Center

The licensee's exercise critique did not identify inappropriate exercise controller interactions with some participants who were involved in Operations Support Center (OSC) activities. Specifically, on multiple occasions various participants were given information by a licensee exercise controller during the exercise before they had opportunities to demonstrate how they would either earn such information or how they could identify and correct mis-information. Also, the licensee's critique did not identify a few instances of exercise participants' failure to implement adequate protective measures associated with OSC activities. The NRC has determined that the above finding on the inadequate critique of certain OSC controller and exercise participants' performances was of very low safety significance (Green). In accordance with NRC's Enforcement Policy, the critique issue is not a violation of NRC requirements since it was associated with an exercise, rather than with an actual emergency response.

Inspection Report# : [2002003\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Miscellaneous

Last modified : May 30, 2003

Perry 1 2Q/2003 Plant Inspection Findings

Initiating Events



Significance: Mar 31, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES WHEN BYPASSING LPRMs

Green. A self-revealing Non-Cited Violation of Technical Specification (TS) 5.4 occurred on January 31, 2003, when technicians bypassed two local power range monitoring (LPRM) detectors without using the appropriate procedure. As a result, average power range monitor (APRM) C was not bypassed prior to bypassing the LPRMs and the operating crew was not aware of the activities in progress.

Inspection Report# : [2003003\(pdf\)](#)

Mitigating Systems



Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SHIFT AND RELIEF TURNOVER

A self-revealed violation of Technical Specification 5.4 occurred on May 7, 2003, when the licensed operator "at the controls" left the "at-the-controls" and operations area of the control room without using the appropriate procedure for shift and relief turnover. During the individual's absence, a control room annunciator was received. When the alarm was not acknowledged, two licensed operators in the "at-the-controls" area (conducting an emergency diesel generator (EDG) surveillance run) observed the "at-the-controls" operator's absence and responded to the annunciator. Operations management was not made aware of the personnel error until approximately 16.5 hours later at which time a condition report was generated and the individual was relieved of licensed operator duties pending incident review and remediation. The finding was more than minor because it could reasonably be viewed as a precursor to a significant event. In other circumstances, a second licensed operator may not have been in the control room. Additionally, the failure to promptly identify a performance deficiency was not consistent with site expectations. The finding was of very low safety significance because the annunciator was expected due to inclined fuel transfer system operation and the licensed operator was out of the "at-the-controls" area for only approximately 20 seconds.

Inspection Report# : [2003004\(pdf\)](#)



Significance: Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to use an appropriate surveillance test procedure for the EDG using the fuel oil booster pump

NCV, 50-440/03-05-01, was identified for failure to use an appropriate surveillance test procedure in accordance with

10 CFR 50, Appendix B, Criterion V. Condition reports documented four repetitive fuse failures for the Division 2 emergency diesel generator nonsafety-related fuel oil booster pump from July 16, 2002 to September 18, 2002. Although the booster pump is nonsafety related, it is utilized as part of the emergency diesel generator start and load surveillance (surveillance instruction SVI-R43-T1318) required by Technical Specifications (TS) 3.8.1. The surveillance was not appropriate due to inclusion of a nonsafety-related, unreliable piece of equipment since during those periods when the booster pump had failed, actual diesel start time may have been outside of TS limits. The surveillance had never been run without the booster pump to demonstrate that the diesel would pass if the booster pump tripped. This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because no failure occurred during a surveillance test or in use, this issue had very low safety significance. (Section 4OA2.b)

Inspection Report# : [2003005\(pdf\)](#)

Significance: G Jun 27, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking

A self-revealing NCV, 50-440/03-05-02, was identified for inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking in accordance with 10 CFR 50, Appendix B, Criterion XVI. On May 13, 2003, following receipt of a high level sump alarm the licensee discovered a broken 3/4" HPCS drain valve on the test return line to the condensate storage tank. The broken valve sprayed water on equipment in the HPCS room which subsequently required drying and inspection. Prior to this failure, on January 11, 1998 and on April 19, 1999, the licensee had discovered and reworked the weld joint due to cracks and leakage. This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because the reactor was shut down at the time of the failure, this issue had very low safety significance. (Section 4OA2.c)

Inspection Report# : [2003005\(pdf\)](#)

Significance: G Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err.

The inspectors identified an NCV, 50-440/03-05-03, for failure to take corrective action as required by 10 CFR 50 Appendix B, Criterion XVI. Specifically, the licensee failed to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err in ways that had the potential to adversely impact the safety of the site. The finding is of very low safety significance because the specific items identified did not initiate an event nor result in the loss of function of a mitigating system. The inspectors determined that the violation was more than minor using guidance in Appendix B, of Inspection Manual Chapter 0612. The inspectors determined that the failure to correct this condition could reasonably be viewed as a precursor to a significant event and, in the case of local power range monitor configuration did affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. (Section 4OA2.c)

Inspection Report# : [2003005\(pdf\)](#)

Significance: G Mar 31, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY AND CORRECT DEGRADED FIRE BARRIER

Green. The inspectors identified a licensee performance deficiency in that the licensee failed to promptly identify and correct a degraded fire barrier between the Division 3 and Division 1 switchgear rooms. The condition existed since

May 2001 but was not identified until May 2002. Following identification of the degradation, the licensee established an hourly fire watch, but 10 months later had yet to correct the degraded fire barrier.

Inspection Report# : [2003003\(pdf\)](#)

Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE EXTENT OF CONDITION REVIEW FOR ECCW INOPERABILITY DUE TO SAFETY/NON-SAFETY PIPING INTERFACE

Green. The inspectors identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality in that the licensee did not recognize that during chemical addition to the emergency closed cooling water (ECCW) system, the system is cross-connected to non-safety piping. The licensee had previously identified that ECCW was rendered inoperable during periodic testing of check valves due to cross-connection with non-safety piping, but failed to thoroughly evaluate the extent of condition and recognize a similar condition existed during routine chemical additions.

Inspection Report# : [2003003\(pdf\)](#)

Significance: SL-IV Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59

The team identified a Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. Specifically, the licensee failed to complete a documented safety evaluation for a change to the facility as described in the Updated Final Safety Analysis Report that involved: 1) the incorporation of new electrical standards affecting battery maintenance and acceptance criteria, and 2) changes to a plant drawing and procedure which reduced electrical separation criteria.

Inspection Report# : [2003002\(pdf\)](#)

Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of half-couplings on a B train emergency service water elbow.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design reviews associated with the installation of half-couplings on a B train 14 inch emergency service water elbow. The licensee installed half-couplings in response to a through-wall leak and an area of wall loss identified on a 14 inch emergency service water elbow. However, the licensee's design review was inadequate in that, it failed to include the requirements of Section XI of the American Society of Mechanical Engineers Code. Specifically, the licensee failed to identify the cause of the flaw, failed to adequately characterize the dimensions of the flaw, nor was the potential growth of these flaws considered. Further, the repair design did not include flaw removal or component replacement.

Inspection Report# : [2003002\(pdf\)](#)

Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray diesel generator.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design review associated with installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray emergency diesel generator. This finding was self-revealed on October 25, 2000, after the diesel generator was placed in service following this modification, the rupture disc failed in less than 3 minutes due to pressure induced fatigue. The licensee's design review for the rupture disc was inadequate because it did not adequately consider pressure induced fatigue loading.

Inspection Report# : [2003002\(pdf\)](#)



Significance: **W** Dec 28, 2002

Identified By: NRC

Item Type: VIO Violation

HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

Technical Specification 5.4 requires, in part, that procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 9, "Procedures for Performing Maintenance," recommends that maintenance activities that affect the performance of safety-related equipment should be performed in accordance with written procedures appropriate to the circumstances. Procedure GEI-0135, Revision 1, March 30, 1999, "ABB Power Circuit Breakers 5 KV Types 5HK250 and 5HK350 Maintenance," Step 15.14.3.3 requires a visual check of the cell switch normally open contacts to verify they are in the flat horizontal position prior to breaker installation. The procedure allows in a note to the step, that it may be acceptable for contact bars to not be in flat horizontal alignment provided a clear make/break of the contacts is observed. Contrary to the above, the licensee failed to implement procedure GEI-0135 during the installation and inspection of the high pressure core spray pump breaker from 1994 through October 23, 2002. Specifically, the licensee did not verify that the contacts were in the flat horizontal position prior to breaker installation or that there was a clear make/break of the contacts. This failure to verify the alignment of the contacts resulted in degradation of the connection over time and failure of the pump to start during surveillance testing on October 23, 2002. This performance issue was characterized as having low to moderate risk significance ("White") in the NRC's final significance determination letter dated March 4, 2003 (VIO 2002008-02). During this supplemental inspection, performed in accordance with Inspection Procedure 95001, significant deficiencies were identified with regard to the licensee's extent of condition evaluation. As a result of these concerns, the white issue associated with the HPCS pump failure to start will not be closed at this time.

Inspection Report# : [2002008\(pdf\)](#)

Inspection Report# : [2003007\(pdf\)](#)



Significance: **G** Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE FOR THE ROD CONTROL AND INFORMATION SYSTEM

Green. The inspectors identified a NCV of 10 CFR 50.65 (a)(2) for the licensee's failure to demonstrate that the performance of the rod control and information system (RCIS) was being effectively controlled through the performance of appropriate maintenance. The licensee's failure to consider the rod insertion function of the RCIS when evaluating system performance was determined to be the cause of the error. The issue was evaluated as having very low risk significance (Green) since, although the mitigation system cornerstone was affected in that reactivity control was degraded by loss of a RCIS safety, no actual loss rod insertion ability occurred due to other methods being available.

(Section 1R12)

Inspection Report# : [2002006\(pdf\)](#)



Significance: **G** Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR IMPROPERLY FUNCTIONING CONTROL ROOM INDICATIONS

Green. The inspectors identified a NCV of Technical Specification (TS) 5.4 for the licensee's failure to follow procedures regarding tagging of improperly reading equipment. The primary cause was the crosscutting issue of human performance since the technicians and operators failed to recognize out-of-specification data in the partially completed surveillance indicated equipment degradation. The finding was more than minor because an indication used by control room personnel for vessel level did not read correctly and under other circumstances a failure of a control function could have been overlooked. The finding was of low safety significance because no loss of automatic protective functions occurred and other indications of vessel level were available to operators. (Section 1R22)

Inspection Report# : [2002006\(pdf\)](#)

Barrier Integrity



Significance: **G** Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM TECHNICAL SPECIFICATION REQUIRED TESTING

Green. The inspectors identified a violation of TS surveillance requirement (SR) 3.6.1.9.1 in that the licensee failed to perform TS required surveillance testing and appropriate post-maintenance testing (PMT) following packing adjustment of a main steam shutoff valve. SR 3.6.1.9.1 specified that the licensee verify isolation times of main steam shutoff valves at a frequency in accordance with the Inservice Testing Program. The Inservice Testing Program specifically stated that following adjustment of stem packing, stroke time testing will be performed. Contrary to this requirement, no stroke time testing was performed on the valve. The inspectors also noted that the condition was further aggravated by the licensee's use of an operability determination to declare the valve operable once the missed PMT was initially identified. The licensee failed to recognize the TS compliance aspect until prompted, repeatedly, by the inspectors. The inspectors determined that the finding was more than minor because the failure to perform PMT on a safety related component could reasonably be viewed as a precursor to a significant event. The finding was of very low risk significance because, although the barrier integrity cornerstone was affected in that containment systems capability was not demonstrated through TS required surveillance testing, subsequent testing demonstrated that the system would have performed its intended safety function. (Section 1R19)

Inspection Report# : [2002008\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE CONTINUOUS RADIOLOGICAL SURVEILLANCE

A finding of very low safety significance was self-revealed during work in the reactor water clean up (RWCU) heat exchanger (HX) room when the licensee failed to provide continuous radiological surveillance (electronic telemetry dosimetry) for a worker in an area where a major portion of the body could receive in one hour a dose >3000 mrem, as required by Technical Specification 5.7.4. The finding was more than minor because the failure to provide continuous monitoring in a high radiation area resulted in an individual worker's unplanned, unintended dose, and resulted from actions or conditions contrary to licensee Technical Specifications. This finding was associated with the "Programs and Processes" and "Human Performance" attributes of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.4.

Inspection Report# : [2003004\(pdf\)](#)

Significance: Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PLACE DOSIMETRY TO PROPERLY REFLECT HIGHEST WHOLE BODY DOSE

A finding of very low safety significance was self-revealed during work in the RWCU HX room when the licensee failed to place dosimetry to properly reflect the highest whole body dose for the working position as required by licensee procedure HPI-C0005, "Radiation Work Permit Surveys and Surveillances." The finding was more than minor because the failure to place dosimetry to properly reflect the highest whole body dose for the working position resulted in an individual worker's unplanned, unintended dose and resulted from actions or conditions contrary to licensee procedures. This finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of licensee procedure HPI-C0005.

Inspection Report# : [2003004\(pdf\)](#)

Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROPERLY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance was NRC-identified during work in the drywell when the licensee failed to properly control access to a locked high radiation area (LHRA), as required by Technical Specification 5.7.2 and 5.7.3. The finding was more than minor because the failure to adequately control access to Technical Specification LHRAs had an impact on radiological safety (external dose) and if not corrected would become a more significant concern given the elevated dose rates that occur in accessible areas during refueling outages. The finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone

objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable ALARA planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.3

Inspection Report# : [2003004\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Jun 27, 2003

Identified By: NRC

Item Type: FIN Finding

PI&R Biannual Summary

The team concluded that, in general, the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on the limited examples of missed issues the team identified. Licensee audits and assessments also identified issues similar to NRC observations. Generally, corrective actions were appropriate based on the identified causes and were effective; however, a notable number of repetitive issues were identified indicating need to be more aggressive in resolving issues. Plant staff willingness to identify safety issues, a user friendly condition report initiation process, and a low program threshold for initiating condition reports supported a safety conscious work environment.

Inspection Report# : [2003005\(pdf\)](#)

Last modified : September 04, 2003

Perry 1 3Q/2003 Plant Inspection Findings

Initiating Events



Significance: Mar 31, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES WHEN BYPASSING LPRMs

Green. A self-revealing Non-Cited Violation of Technical Specification (TS) 5.4 occurred on January 31, 2003, when technicians bypassed two local power range monitoring (LPRM) detectors without using the appropriate procedure. As a result, average power range monitor (APRM) C was not bypassed prior to bypassing the LPRMs and the operating crew was not aware of the activities in progress.

Inspection Report# : [2003003\(pdf\)](#)

Mitigating Systems



Significance: Sep 30, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAINTAIN FIRE BARRIERS

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 3 and Division 2 Emergency Diesel Generator (EDG) rooms. The inspectors observed that with the ventilation system operating as required for EDG operations, the fire door separating the two rooms would not close without assistance and thus, was an impairment or degradation of a fire protection feature.

This finding is greater than minor because it is associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because the separation of redundant trains of safe shutdown equipment was not compromised.

Inspection Report# : [2003006\(pdf\)](#)



Significance: Sep 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH PERFORMANCE CRITERIA FOR (a)(1) SYSTEMS

The inspectors identified a Non-Cited Violation of 10 CFR 50.65(a)(1) for the failure of the licensee to monitor the performance of the rod control and information system (RCIS) against licensee established goals. The licensee Maintenance Rule expert panel approved re-categorization of the system function of manual rod insertion to (a)(1) on November 6, 2002. As of September 25, 2003, the licensee had failed to establish goals for system monitoring. The inspectors identified a similar deficiency with five additional systems or system functions currently classified as (a)(1)

by the licensee.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that the failure to establish goals and monitor system performance in accordance with 10 CFR 50.65(a)(1) did not directly result in additional system or function failures.

Inspection Report# : [2003006\(pdf\)](#)

Significance: TBD Sep 30, 2003

Identified By: NRC

Item Type: AV Apparent Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

Inspection Report# : [2003006\(pdf\)](#)

G

Significance: G Sep 12, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT AND FOLLOW PROCEDURES FOR DIESEL GENERATOR OPERATION

A self-revealed violation of Technical Specification (TS) 5.4 occurred on August 21, 2003, when the Division 1 emergency diesel generator (EDG) failed its surveillance due to high output voltage. Technical Specification 5.4 required maintenance and implementation of procedures required by Regulatory Guide 1.33. Regulatory Guide 1.33 required procedures for EDG operation. Licensee procedures did not provide direction to perform proper EDG restoration following an automatic EDG trip.

The finding was greater than minor because it could reasonably be viewed as a precursor to a significant event and was associated with the mitigating system cornerstone attribute of equipment reliability. The finding affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the EDG was relied upon to provide emergency power to safety systems in the event of a LOOP. The finding is of very low safety significance because no damage to equipment occurred and operators would have been able to restore proper EDG output voltage. As such, no loss of safety function would have occurred. (Section 4OA3.8)

Inspection Report# : [2003009\(pdf\)](#)

G

Significance: G Aug 01, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IDENTIFICATION OF EXTENT OF CONDITION ASSOCIATED WITH HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

The inspector identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality. The inspector determined that while the licensee's evaluation of the high pressure core spray pump failure to start event properly identified the root cause of this issue to be inadequate procedural guidance for cell switch alignment and inspection, the licensee failed to identify that the same procedural inadequacy existed in other licensee procedures. Specifically, the licensee inaccurately concluded that 5kv and 15kv breaker auxiliary switches were not affected by the issue.

Inspection Report# : [2003007\(pdf\)](#)



Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SHIFT AND RELIEF TURNOVER

A self-revealed violation of Technical Specification 5.4 occurred on May 7, 2003, when the licensed operator "at the controls" left the "at-the-controls" and operations area of the control room without using the appropriate procedure for shift and relief turnover. During the individual's absence, a control room annunciator was received. When the alarm was not acknowledged, two licensed operators in the "at-the-controls" area (conducting an emergency diesel generator (EDG) surveillance run) observed the "at-the-controls" operator's absence and responded to the annunciator. Operations management was not made aware of the personnel error until approximately 16.5 hours later at which time a condition report was generated and the individual was relieved of licensed operator duties pending incident review and remediation.

The finding was more than minor because it could reasonably be viewed as a precursor to a significant event. In other circumstances, a second licensed operator may not have been in the control room. Additionally, the failure to promptly identify a performance deficiency was not consistent with site expectations. The finding was of very low safety significance because the annunciator was expected due to inclined fuel transfer system operation and the licensed operator was out of the "at-the-controls" area for only approximately 20 seconds.

Inspection Report# : [2003004\(pdf\)](#)



Significance: Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to use an appropriate surveillance test procedure for the EDG using the fuel oil booster pump

NCV, 50-440/03-05-01, was identified for failure to use an appropriate surveillance test procedure in accordance with 10 CFR 50, Appendix B, Criterion V. Condition reports documented four repetitive fuse failures for the Division 2 emergency diesel generator nonsafety-related fuel oil booster pump from July 16, 2002 to September 18, 2002.

Although the booster pump is nonsafety related, it is utilized as part of the emergency diesel generator start and load surveillance (surveillance instruction SVI-R43-T1318) required by Technical Specifications (TS) 3.8.1. The surveillance was not appropriate due to inclusion of a nonsafety-related, unreliable piece of equipment since during those periods when the booster pump had failed, actual diesel start time may have been outside of TS limits. The surveillance had never been run without the booster pump to demonstrate that the diesel would pass if the booster pump tripped.

This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because no failure occurred during a surveillance test or in use, this issue had very low safety significance. (Section 4OA2.b)

Inspection Report# : [2003005\(pdf\)](#)

Significance:  Jun 27, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking

A self-revealing NCV, 50-440/03-05-02, was identified for inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking in accordance with 10 CFR 50, Appendix B, Criterion XVI. On May 13, 2003, following receipt of a high level sump alarm the licensee discovered a broken 3/4" HPCS drain valve on the test return line to the condensate storage tank. The broken valve sprayed water on equipment in the HPCS room which subsequently required drying and inspection. Prior to this failure, on January 11, 1998 and on April 19, 1999, the licensee had discovered and reworked the weld joint due to cracks and leakage.

This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because the reactor was shut down at the time of the failure, this issue had very low safety significance. (Section 4OA2.c)

Inspection Report# : [2003005\(pdf\)](#)

Significance:  Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err.

The inspectors identified an NCV, 50-440/03-05-03, for failure to take corrective action as required by 10 CFR 50 Appendix B, Criterion XVI. Specifically, the licensee failed to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err in ways that had the potential to adversely impact the safety of the site.

The finding is of very low safety significance because the specific items identified did not initiate an event nor result in the loss of function of a mitigating system. The inspectors determined that the violation was more than minor using guidance in Appendix B, of Inspection Manual Chapter 0612. The inspectors determined that the failure to correct this condition could reasonably be viewed as a precursor to a significant event and, in the case of local power range monitor configuration did affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. (Section 4OA2.c)

Inspection Report# : [2003005\(pdf\)](#)

Significance:  Mar 31, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY AND CORRECT DEGRADED FIRE BARRIER

Green. The inspectors identified a licensee performance deficiency in that the licensee failed to promptly identify and correct a degraded fire barrier between the Division 3 and Division 1 switchgear rooms. The condition existed since May 2001 but was not identified until May 2002. Following identification of the degradation, the licensee established an hourly fire watch, but 10 months later had yet to correct the degraded fire barrier.

Inspection Report# : [2003003\(pdf\)](#)

Significance:  Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE EXTENT OF CONDITION REVIEW FOR ECCW INOPERABILITY DUE TO

SAFETY/NON-SAFETY PIPING INTERFACE

Green. The inspectors identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality in that the licensee did not recognize that during chemical addition to the emergency closed cooling water (ECCW) system, the system is cross-connected to non-safety piping. The licensee had previously identified that ECCW was rendered inoperable during periodic testing of check valves due to cross-connection with non-safety piping, but failed to thoroughly evaluate the extent of condition and recognize a similar condition existed during routine chemical additions.

Inspection Report# : [2003003\(pdf\)](#)

Significance: SL-IV Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59

The team identified a Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. Specifically, the licensee failed to complete a documented safety evaluation for a change to the facility as described in the Updated Final Safety Analysis Report that involved: 1) the incorporation of new electrical standards affecting battery maintenance and acceptance criteria, and 2) changes to a plant drawing and procedure which reduced electrical separation criteria.

Inspection Report# : [2003002\(pdf\)](#)



Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of half-couplings on a B train emergency service water elbow.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design reviews associated with the installation of half-couplings on a B train 14 inch emergency service water elbow. The licensee installed half-couplings in response to a through-wall leak and an area of wall loss identified on a 14 inch emergency service water elbow. However, the licensee's design review was inadequate in that, it failed to include the requirements of Section XI of the American Society of Mechanical Engineers Code. Specifically, the licensee failed to identify the cause of the flaw, failed to adequately characterize the dimensions of the flaw, nor was the potential growth of these flaws considered. Further, the repair design did not include flaw removal or component replacement.

Inspection Report# : [2003002\(pdf\)](#)



Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray diesel generator.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design review associated with installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray emergency diesel generator. This finding was self-revealed on October 25, 2000, after the diesel generator was placed in service following this modification, the rupture disc failed in less than 3 minutes due to pressure induced fatigue. The licensee's design review for the rupture disc was inadequate because it did not adequately consider pressure induced fatigue loading.

Inspection Report# : [2003002\(pdf\)](#)



Significance: W Dec 28, 2002

Identified By: NRC

Item Type: VIO Violation

HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

Technical Specification 5.4 requires, in part, that procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 9, "Procedures for Performing Maintenance," recommends that maintenance activities that affect the performance of safety-related equipment should be performed in accordance with written procedures appropriate to the circumstances. Procedure GEI-0135, Revision 1, March 30, 1999, "ABB Power Circuit Breakers 5 KV Types 5HK250 and 5HK350 Maintenance," Step 15.14.3.3 requires a visual check of the cell switch normally open contacts to verify they are in the flat horizontal position prior to breaker installation.

The procedure allows in a note to the step, that it may be acceptable for contact bars to not be in flat horizontal alignment provided a clear make/break of the contacts is observed.

Contrary to the above, the licensee failed to implement procedure GEI-0135 during the installation and inspection of the high pressure core spray pump breaker from 1994 through October 23, 2002. Specifically, the licensee did not verify that the contacts were in the flat horizontal position prior to breaker installation or that there was a clear make/break of the contacts. This failure to verify the alignment of the contacts resulted in degradation of the connection over time and failure of the pump to start during surveillance testing on October 23, 2002. This performance issue was characterized as having low to moderate risk significance ("White") in the NRC's final significance determination letter dated March 4, 2003 (VIO 2002008-02). During this supplemental inspection, performed in accordance with Inspection Procedure 95001, significant deficiencies were identified with regard to the licensee's extent of condition evaluation. As a result of these concerns, the white issue associated with the HPCS pump failure to start will not be closed at this time.

Inspection Report# : [2002008\(pdf\)](#)

Inspection Report# : [2003007\(pdf\)](#)

Barrier Integrity



Significance: G Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM TECHNICAL SPECIFICATION REQUIRED TESTING

Green. The inspectors identified a violation of TS surveillance requirement (SR) 3.6.1.9.1 in that the licensee failed to perform TS required surveillance testing and appropriate post-maintenance testing (PMT) following packing adjustment of a main steam shutoff valve. SR 3.6.1.9.1 specified that the licensee verify isolation times of main steam shutoff valves at a frequency in accordance with the Inservice Testing Program. The Inservice Testing Program specifically stated that following adjustment of stem packing, stroke time testing will be performed. Contrary to this requirement, no stroke time testing was performed on the valve. The inspectors also noted that the condition was further aggravated by the licensee's use of an operability determination to declare the valve operable once the missed PMT was initially identified. The licensee failed to recognize the TS compliance aspect until prompted, repeatedly, by

the inspectors.

The inspectors determined that the finding was more than minor because the failure to perform PMT on a safety related component could reasonably be viewed as a precursor to a significant event. The finding was of very low risk significance because, although the barrier integrity cornerstone was affected in that containment systems capability was not demonstrated through TS required surveillance testing, subsequent testing demonstrated that the system would have performed its intended safety function. (Section 1R19)

Inspection Report# : [2002008\(pdf\)](#)

Emergency Preparedness

Significance: TBD Sep 30, 2003

Identified By: NRC

Item Type: AV Apparent Violation

FAILURE TO CLASSIFY AN ALERT WITHIN 15 MINUTES

The inspectors identified an apparent violation having preliminarily low to moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an ALERT level event on April 24, 2003. During this event, damage to irradiated fuel caused a high alarm on the fuel handling building ventilation exhaust gaseous radiation monitor.

The finding was determined to be greater than minor because it affected the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was preliminarily determined to be of low to moderate safety significance because the licensee failed to implement a risk significant planning standard (10 CFR 50.47(b)(4)) during an actual Alert emergency.

Inspection Report# : [2003006\(pdf\)](#)

Occupational Radiation Safety



Significance: Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE CONTINUOUS RADIOLOGICAL SURVEILLANCE

A finding of very low safety significance was self-revealed during work in the reactor water clean up (RWCU) heat exchanger (HX) room when the licensee failed to provide continuous radiological surveillance (electronic telemetry dosimetry) for a worker in an area where a major portion of the body could receive in one hour a dose >3000 mrem, as required by Technical Specification 5.7.4.

The finding was more than minor because the failure to provide continuous monitoring in a high radiation area resulted in an individual worker's unplanned, unintended dose, and resulted from actions or conditions contrary to licensee Technical Specifications. This finding was associated with the "Programs and Processes" and "Human Performance" attributes of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there

was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.4.

Inspection Report# : [2003004\(pdf\)](#)

Significance: Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PLACE DOSIMETRY TO PROPERLY REFLECT HIGHEST WHOLE BODY DOSE

A finding of very low safety significance was self-revealed during work in the RWCU HX room when the licensee failed to place dosimetry to properly reflect the highest whole body dose for the working position as required by licensee procedure HPI-C0005, "Radiation Work Permit Surveys and Surveillances."

The finding was more than minor because the failure to place dosimetry to properly reflect the highest whole body dose for the working position resulted in an individual worker's unplanned, unintended dose and resulted from actions or conditions contrary to licensee procedures. This finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of licensee procedure HPI-C0005.

Inspection Report# : [2003004\(pdf\)](#)

Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROPERLY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance was NRC-identified during work in the drywell when the licensee failed to properly control access to a locked high radiation area (LHRA), as required by Technical Specification 5.7.2 and 5.7.3.

The finding was more than minor because the failure to adequately control access to Technical Specification LHRAs had an impact on radiological safety (external dose) and if not corrected would become a more significant concern given the elevated dose rates that occur in accessible areas during refueling outages. The finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable ALARA planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.3.

Inspection Report# : [2003004\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Jun 27, 2003

Identified By: NRC

Item Type: FIN Finding

PI&R Biannual Summary

The team concluded that, in general, the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on the limited examples of missed issues the team identified. Licensee audits and assessments also identified issues similar to NRC observations. Generally, corrective actions were appropriate based on the identified causes and were effective; however, a notable number of repetitive issues were identified indicating need to be more aggressive in resolving issues. Plant staff willingness to identify safety issues, a user friendly condition report initiation process, and a low program threshold for initiating condition reports supported a safety conscious work environment.

Inspection Report# : [2003005](#)(pdf)

Last modified : December 01, 2003

Perry 1

4Q/2003 Plant Inspection Findings

Initiating Events

Significance: Mar 31, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES WHEN BYPASSING LPRMs

Green. A self-revealing Non-Cited Violation of Technical Specification (TS) 5.4 occurred on January 31, 2003, when technicians bypassed two local power range monitoring (LPRM) detectors without using the appropriate procedure. As a result, average power range monitor (APRM) C was not bypassed prior to bypassing the LPRMs and the operating crew was not aware of the activities in progress.

Inspection Report# : [2003003\(pdf\)](#)

Mitigating Systems

Significance: Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMMUNICATE THAT THE MOTOR FEED PUMP WAS TO BE PROTECTED AS REQUIRED BY ONLINE RISK MANAGEMENT STRATEGY

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 50.65(a)(4) for the licensee's failure to manage risk during a Division 1 outage on November 3, 2003. The licensee failed to communicate that the motor feed pump (MFP) was to be protected as required by their online risk management strategy. As a result, the MFP was not posted as protected equipment in accordance with site policies and procedures nor, more significantly, was control room supervision aware that the MFP required such protection. Once the condition was brought to the attention of control room personnel, the area was immediately posted.

This finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Specifically, since the control room was unaware of the need to protect the MFP, the inspectors concluded that work on or near the MFP could have been authorized. Further, without the local posting and with the absence of the MFP on the promulgated list of protected systems, workers would not have questioned the release of work on the MFP nor demonstrated heightened awareness when working in the area. In addition, had the MFP become unavailable, the plant's online risk configuration would have crossed the yellow to orange threshold. The finding was of very low safety significance because no work occurred to cause the MFP to become unavailable.

Inspection Report# : [2003010\(pdf\)](#)

Significance: Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO VERIFY COMPONENT OPERABILITY DURING SYSTEM RESTORATION FOLLOWING REMOTE SHUTDOWN SYSTEM SURVEILLANCE TESTING

The inspectors identified a non-cited violation of Technical Specification 5.4, Procedures, for the licensee's failure to perform verification of component operability during system restoration following surveillance testing of the Division 2 remote shutdown system on September 9, 2003. While the licensee tested the capability of the system to control safe shutdown systems from outside the control room, the inspectors observed that the licensee failed to verify that control capability was returned to the control room prior to declaring systems and components operable. Specifically, the licensee failed to verify reestablishment of safety-related circuit continuity, such that the components could be operated from the control room during system restoration. The inspectors additionally noted that the licensee did not test the ability of the transfer switch to isolate the control circuitry from the control room.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and the finding is associated with the objective of ensuring operability, availability, reliability and function of the safety-related systems. The inspectors determined that the finding was of very low safety significance in accordance with the Significance Determination Process Phase 1 worksheet because the continuity of the safety-related circuitry was subsequently successfully demonstrated by other licensee surveillance procedures. Therefore, no actual loss of safety function occurred.

Inspection Report# : [2003010\(pdf\)](#)

Significance: TBD Dec 31, 2003

Identified By: NRC

Item Type: AV Apparent Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power.

Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

Inspection Report# : [2003010\(pdf\)](#)

G

Significance: G Sep 30, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAINTAIN FIRE BARRIERS

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 3 and Division 2 Emergency Diesel Generator (EDG) rooms. The inspectors observed that with the ventilation system operating as required for EDG operations, the fire door separating the two rooms would not close without assistance and thus, was an impairment or degradation of a fire protection feature.

This finding is greater than minor because it is associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because the separation of redundant trains of safe shutdown equipment was not compromised.

Inspection Report# : [2003006\(pdf\)](#)

Significance: Sep 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH PERFORMANCE CRITERIA FOR (a)(1) SYSTEMS

The inspectors identified a Non-Cited Violation of 10 CFR 50.65(a)(1) for the failure of the licensee to monitor the performance of the rod control and information system (RCIS) against licensee established goals. The licensee Maintenance Rule expert panel approved re-categorization of the system function of manual rod insertion to (a)(1) on November 6, 2002. As of September 25, 2003, the licensee had failed to establish goals for system monitoring. The inspectors identified a similar deficiency with five additional systems or system functions currently classified as (a)(1) by the licensee.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that the failure to establish goals and monitor system performance in accordance with 10 CFR 50.65(a)(1) did not directly result in additional system or function failures.

Inspection Report# : [2003006\(pdf\)](#)

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Significance: Sep 12, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT AND FOLLOW PROCEDURES FOR DIESEL GENERATOR OPERATION

A self-revealed violation of Technical Specification (TS) 5.4 occurred on August 21, 2003, when the Division 1 emergency diesel generator (EDG) failed its surveillance due to high output voltage. Technical Specification 5.4 required maintenance and implementation of procedures required by Regulatory Guide 1.33. Regulatory Guide 1.33 required procedures for EDG operation. Licensee procedures did not provide direction to perform proper EDG restoration following an automatic EDG trip.

The finding was greater than minor because it could reasonably be viewed as a precursor to a significant event and was associated with the mitigating system cornerstone attribute of equipment reliability. The finding affected the

cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the EDG was relied upon to provide emergency power to safety systems in the event of a LOOP. The finding is of very low safety significance because no damage to equipment occurred and operators would have been able to restore proper EDG output voltage. As such, no loss of safety function would have occurred. (Section 4OA3.8)

Inspection Report# : [2003009\(pdf\)](#)

Significance: G Aug 01, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IDENTIFICATION OF EXTENT OF CONDITION ASSOCIATED WITH HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

The inspector identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality. The inspector determined that while the licensee's evaluation of the high pressure core spray pump failure to start event properly identified the root cause of this issue to be inadequate procedural guidance for cell switch alignment and inspection, the licensee failed to identify that the same procedural inadequacy existed in other licensee procedures. Specifically, the licensee inaccurately concluded that 5kv and 15kv breaker auxiliary switches were not affected by the issue.

Inspection Report# : [2003007\(pdf\)](#)

Significance: G Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SHIFT AND RELIEF TURNOVER

A self-revealed violation of Technical Specification 5.4 occurred on May 7, 2003, when the licensed operator "at the controls" left the "at-the-controls" and operations area of the control room without using the appropriate procedure for shift and relief turnover. During the individual's absence, a control room annunciator was received. When the alarm was not acknowledged, two licensed operators in the "at-the-controls" area (conducting an emergency diesel generator (EDG) surveillance run) observed the "at-the-controls" operator's absence and responded to the annunciator. Operations management was not made aware of the personnel error until approximately 16.5 hours later at which time a condition report was generated and the individual was relieved of licensed operator duties pending incident review and remediation.

The finding was more than minor because it could reasonably be viewed as a precursor to a significant event. In other circumstances, a second licensed operator may not have been in the control room. Additionally, the failure to promptly identify a performance deficiency was not consistent with site expectations. The finding was of very low safety significance because the annunciator was expected due to inclined fuel transfer system operation and the licensed operator was out of the "at-the-controls" area for only approximately 20 seconds.

Inspection Report# : [2003004\(pdf\)](#)

Significance: G Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to use an appropriate surveillance test procedure for the EDG using the fuel oil booster pump

NCV, 50-440/03-05-01, was identified for failure to use an appropriate surveillance test procedure in accordance with

10 CFR 50, Appendix B, Criterion V. Condition reports documented four repetitive fuse failures for the Division 2 emergency diesel generator nonsafety-related fuel oil booster pump from July 16, 2002 to September 18, 2002. Although the booster pump is nonsafety related, it is utilized as part of the emergency diesel generator start and load surveillance (surveillance instruction SVI-R43-T1318) required by Technical Specifications (TS) 3.8.1. The surveillance was not appropriate due to inclusion of a nonsafety-related, unreliable piece of equipment since during those periods when the booster pump had failed, actual diesel start time may have been outside of TS limits. The surveillance had never been run without the booster pump to demonstrate that the diesel would pass if the booster pump tripped.

This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because no failure occurred during a surveillance test or in use, this issue had very low safety significance. (Section 4OA2.b)
Inspection Report# : [2003005\(pdf\)](#)

Significance: Jun 27, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking

A self-revealing NCV, 50-440/03-05-02, was identified for inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking in accordance with 10 CFR 50, Appendix B, Criterion XVI. On May 13, 2003, following receipt of a high level sump alarm the licensee discovered a broken 3/4" HPCS drain valve on the test return line to the condensate storage tank. The broken valve sprayed water on equipment in the HPCS room which subsequently required drying and inspection. Prior to this failure, on January 11, 1998 and on April 19, 1999, the licensee had discovered and reworked the weld joint due to cracks and leakage.

This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because the reactor was shut down at the time of the failure, this issue had very low safety significance. (Section 4OA2.c)
Inspection Report# : [2003005\(pdf\)](#)

Significance: Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err.

The inspectors identified an NCV, 50-440/03-05-03, for failure to take corrective action as required by 10 CFR 50 Appendix B, Criterion XVI. Specifically, the licensee failed to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err in ways that had the potential to adversely impact the safety of the site.

The finding is of very low safety significance because the specific items identified did not initiate an event nor result in the loss of function of a mitigating system. The inspectors determined that the violation was more than minor using guidance in Appendix B, of Inspection Manual Chapter 0612. The inspectors determined that the failure to correct this condition could reasonably be viewed as a precursor to a significant event and, in the case of local power range monitor configuration did affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. (Section 4OA2.c)
Inspection Report# : [2003005\(pdf\)](#)

Significance: Mar 31, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY AND CORRECT DEGRADED FIRE BARRIER

Green. The inspectors identified a licensee performance deficiency in that the licensee failed to promptly identify and

correct a degraded fire barrier between the Division 3 and Division 1 switchgear rooms. The condition existed since May 2001 but was not identified until May 2002. Following identification of the degradation, the licensee established an hourly fire watch, but 10 months later had yet to correct the degraded fire barrier.

Inspection Report# : [2003003\(pdf\)](#)

Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE EXTENT OF CONDITION REVIEW FOR ECCW INOPERABILITY DUE TO SAFETY/NON-SAFETY PIPING INTERFACE

Green. The inspectors identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality in that the licensee did not recognize that during chemical addition to the emergency closed cooling water (ECCW) system, the system is cross-connected to non-safety piping. The licensee had previously identified that ECCW was rendered inoperable during periodic testing of check valves due to cross-connection with non-safety piping, but failed to thoroughly evaluate the extent of condition and recognize a similar condition existed during routine chemical additions.

Inspection Report# : [2003003\(pdf\)](#)

Significance: SL-IV Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59

The team identified a Severity Level IV Non-Cited Violation associated with the licensee's failure to perform safety evaluations in accordance with 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. Specifically, the licensee failed to complete a documented safety evaluation for a change to the facility as described in the Updated Final Safety Analysis Report that involved: 1) the incorporation of new electrical standards affecting battery maintenance and acceptance criteria, and 2) changes to a plant drawing and procedure which reduced electrical separation criteria.

Inspection Report# : [2003002\(pdf\)](#)

Significance: Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of half-couplings on a B train emergency service water elbow.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design reviews associated with the installation of half-couplings on a B train 14 inch emergency service water elbow. The licensee installed half-couplings in response to a through-wall leak and an area of wall loss identified on a 14 inch emergency service water elbow. However, the licensee's design review was inadequate in that, it failed to include the requirements of Section XI of the American Society of Mechanical Engineers Code. Specifically, the licensee failed to identify the cause of the flaw, failed to adequately characterize the dimensions of the flaw, nor was the potential growth of these flaws considered. Further, the repair design did not include flaw removal or component replacement.

Inspection Report# : [2003002\(pdf\)](#)

 Significance: **G** Feb 14, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate design reviews for installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray diesel generator.

Green. The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's inadequate design review associated with installation of a rupture disc in the exhaust piping of the division 3 high pressure core spray emergency diesel generator. This finding was self-revealed on October 25, 2000, after the diesel generator was placed in service following this modification, the rupture disc failed in less than 3 minutes due to pressure induced fatigue. The licensee's design review for the rupture disc was inadequate because it did not adequately consider pressure induced fatigue loading.

Inspection Report# : [2003002\(pdf\)](#)

 Significance: **W** Dec 28, 2002

Identified By: NRC

Item Type: VIO Violation

HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

Technical Specification 5.4 requires, in part, that procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 9, "Procedures for Performing Maintenance," recommends that maintenance activities that affect the performance of safety-related equipment should be performed in accordance with written procedures appropriate to the circumstances. Procedure GEI-0135, Revision 1, March 30, 1999, "ABB Power Circuit Breakers 5 KV Types 5HK250 and 5HK350 Maintenance," Step 15.14.3.3 requires a visual check of the cell switch normally open contacts to verify they are in the flat horizontal position prior to breaker installation.

The procedure allows in a note to the step, that it may be acceptable for contact bars to not be in flat horizontal alignment provided a clear make/break of the contacts is observed.

Contrary to the above, the licensee failed to implement procedure GEI-0135 during the installation and inspection of the high pressure core spray pump breaker from 1994 through October 23, 2002. Specifically, the licensee did not verify that the contacts were in the flat horizontal position prior to breaker installation or that there was a clear make/break of the contacts. This failure to verify the alignment of the contacts resulted in degradation of the connection over time and failure of the pump to start during surveillance testing on October 23, 2002. This performance issue was characterized as having low to moderate risk significance ("White") in the NRC's final significance determination letter dated March 4, 2003 (VIO 2002008-02). During this supplemental inspection, performed in accordance with Inspection Procedure 95001, significant deficiencies were identified with regard to the licensee's extent of condition evaluation. As a result of these concerns, the white issue associated with the HPCS pump failure to start will not be closed at this time.

Inspection Report# : [2002008\(pdf\)](#)

Inspection Report# : [2003007\(pdf\)](#)

Inspection Report# : [2003012\(pdf\)](#)

Barrier Integrity

Emergency Preparedness



Significance: W Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

FAILURE TO CLASSIFY AN ALERT WITHIN 15 MINUTES

The inspectors identified an apparent violation having preliminarily low to moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an ALERT level event on April 24, 2003. During this event, damage to irradiated fuel caused a high alarm on the fuel handling building ventilation exhaust gaseous radiation monitor.

After considering the information developed during the inspection and at the Regulatory Conference, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2004003\(pdf\)](#)

Occupational Radiation Safety



Significance: G Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE CONTINUOUS RADIOLOGICAL SURVEILLANCE

A finding of very low safety significance was self-revealed during work in the reactor water clean up (RWCU) heat exchanger (HX) room when the licensee failed to provide continuous radiological surveillance (electronic telemetry dosimetry) for a worker in an area where a major portion of the body could receive in one hour a dose >3000 mrem, as required by Technical Specification 5.7.4.

The finding was more than minor because the failure to provide continuous monitoring in a high radiation area resulted in an individual worker's unplanned, unintended dose, and resulted from actions or conditions contrary to licensee Technical Specifications. This finding was associated with the "Programs and Processes" and "Human Performance" attributes of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.4.

Inspection Report# : [2003004\(pdf\)](#)



Significance: G Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PLACE DOSIMETRY TO PROPERLY REFLECT HIGHEST WHOLE BODY DOSE

A finding of very low safety significance was self-revealed during work in the RWCU HX room when the licensee failed to place dosimetry to properly reflect the highest whole body dose for the working position as required by licensee procedure HPI-C0005, "Radiation Work Permit Surveys and Surveillances."

The finding was more than minor because the failure to place dosimetry to properly reflect the highest whole body dose for the working position resulted in an individual worker's unplanned, unintended dose and resulted from actions or conditions contrary to licensee procedures. This finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of licensee procedure HPI-C0005.

Inspection Report# : [2003004\(pdf\)](#)

Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROPERLY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance was NRC-identified during work in the drywell when the licensee failed to properly control access to a locked high radiation area (LHRA), as required by Technical Specification 5.7.2 and 5.7.3.

The finding was more than minor because the failure to adequately control access to Technical Specification LHRAs had an impact on radiological safety (external dose) and if not corrected would become a more significant concern given the elevated dose rates that occur in accessible areas during refueling outages. The finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable ALARA planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.3

Inspection Report# : [2003004\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Jun 27, 2003

Identified By: NRC

Item Type: FIN Finding

PI&R Biannual Summary

The team concluded that, in general, the licensee effectively identified, evaluated, and corrected plant problems.

Problem identification was determined to be effective based on the limited examples of missed issues the team identified. Licensee audits and assessments also identified issues similar to NRC observations. Generally, corrective actions were appropriate based on the identified causes and were effective; however, a notable number of repetitive issues were identified indicating need to be more aggressive in resolving issues. Plant staff willingness to identify safety issues, a user friendly condition report initiation process, and a low program threshold for initiating condition reports supported a safety conscious work environment.

Inspection Report# : [2003005](#)(pdf)

Last modified : March 02, 2004

Perry 1

1Q/2004 Plant Inspection Findings

Initiating Events



Significance: Mar 31, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

LOSS OF NORMAL POWER SUPPLY TO RPS BUS 'B'

A finding of very low safety significance was self-revealed when the normal power supply to reactor protection system (RPS) bus 'B' was lost on November 29, 2003. A comprehensive investigation by the licensee determined that an age-related failure of a contactor in the circuitry resulted in a blown fuse which de-energized RPS bus 'B.' The licensee's investigation also identified that General Electric (GE) Service Information Letter (SIL) 508 issued in 1990, if properly implemented, would have prevented the event. The licensee's immediate actions included restoration of RPS bus 'B' by transfer to the alternate power supply. The failed contactor was replaced. The primary cause of this finding was related to the cross-cutting area of Human Performance because the licensee's review of GE SIL 508 failed to identify all affected plant components.

This finding was more than minor because it was associated with reactor safety/initiating event cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because mitigating system availability was unaffected. The affected contactors were not safety-related components. Therefore, no violation of regulatory requirements occurred.

Inspection Report# : [2004002\(pdf\)](#)

Mitigating Systems



Significance: Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNATTENDED ITEMS LEFT IN CONTAINMENT

A finding of very low safety significance was identified by the inspectors for a violation of Technical Specification 5.4, "Procedures." A licensee procedure required that unless risk-assessed, no items shall be left unattended below the 623' 4" level in containment at any time. On February 5, 2004, the inspectors observed a large sheet of permalon by the 'A' hydraulic power unit with no workers in the area. The licensee removed the material later that same day. The primary cause of this finding was related to the cross-cutting area of Human Performance because plant personnel failed to follow licensee procedures and left material unattended in the swell region of containment.

This finding was more than minor because the inspectors concluded that it could reasonably be viewed as a precursor to a more significant event. Specifically, leaving unattended items in containment can lead to the items falling into the suppression pool without being noticed or being transported into the pool during an actual event. This material can then clog suppression pool strainers thereby reducing emergency core cooling system flow. Since no material fell into the suppression pool and no actual loss of safety function occurred, the inspectors determined the finding to be of very low safety significance. This issue was a Non-Cited Violation of Technical Specification 5.4 which required implementation of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004002\(pdf\)](#)



Significance: Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMMUNICATE THAT THE MOTOR FEED PUMP WAS TO BE PROTECTED AS REQUIRED BY ONLINE RISK MANAGEMENT STRATEGY

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 50.65(a)(4) for the licensee's failure to manage risk during a Division 1 outage on November 3, 2003. The licensee failed to communicate that the motor feed pump (MFP) was to be protected as required by their online risk management strategy. As a result, the MFP was not posted as protected equipment in accordance with site policies and procedures nor, more significantly, was control room supervision aware that the MFP required such protection. Once the condition was brought to the attention of control room personnel, the area was immediately posted.

This finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Specifically, since the control room was unaware of the need to protect the MFP, the inspectors concluded that work on or near the MFP could have been authorized. Further, without the local posting and with the absence of the MFP on the promulgated list of protected systems, workers would not have questioned the release of work on the MFP nor demonstrated heightened awareness when working in the area. In addition, had the MFP become unavailable, the plant's online risk configuration would have crossed the yellow to orange threshold. The finding was of very low safety significance because no work occurred to cause the MFP to become unavailable.

Inspection Report# : [2003010\(pdf\)](#)



Significance: G Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO VERIFY COMPONENT OPERABILITY DURING SYSTEM RESTORATION FOLLOWING REMOTE SHUTDOWN SYSTEM SURVEILLANCE TESTING

The inspectors identified a non-cited violation of Technical Specification 5.4, Procedures, for the licensee's failure to perform verification of component operability during system restoration following surveillance testing of the Division 2 remote shutdown system on September 9, 2003. While the licensee tested the capability of the system to control safe shutdown systems from outside the control room, the inspectors observed that the licensee failed to verify that control capability was returned to the control room prior to declaring systems and components operable. Specifically, the licensee failed to verify reestablishment of safety-related circuit continuity, such that the components could be operated from the control room during system restoration. The inspectors additionally noted that the licensee did not test the ability of the transfer switch to isolate the control circuitry from the control room.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and the finding is associated with the objective of ensuring operability, availability, reliability and function of the safety-related systems. The inspectors determined that the finding was of very low safety significance in accordance with the Significance Determination Process Phase 1 worksheet because the continuity of the safety-related circuitry was subsequently successfully demonstrated by other licensee surveillance procedures. Therefore, no actual loss of safety function occurred.

Inspection Report# : [2003010\(pdf\)](#)



Significance: W Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004

Inspection Report# : [2004006\(pdf\)](#)



Significance: G Sep 30, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAINTAIN FIRE BARRIERS

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 3 and Division 2 Emergency Diesel Generator (EDG) rooms. The inspectors observed that with the ventilation system operating as required for EDG operations, the fire door separating the two rooms would not close without assistance and thus, was an impairment or degradation of a fire protection feature.

This finding is greater than minor because it is associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because the separation of redundant trains of safe shutdown equipment was not compromised.

Inspection Report# : [2003006\(pdf\)](#)**Significance:** Sep 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH PERFORMANCE CRITERIA FOR (a)(1) SYSTEMS

The inspectors identified a Non-Cited Violation of 10 CFR 50.65(a)(1) for the failure of the licensee to monitor the performance of the rod control and information system (RCIS) against licensee established goals. The licensee Maintenance Rule expert panel approved re-categorization of the system function of manual rod insertion to (a)(1) on November 6, 2002. As of September 25, 2003, the licensee had failed to establish goals for system monitoring. The inspectors identified a similar deficiency with five additional systems or system functions currently classified as (a)(1) by the licensee.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that the failure to establish goals and monitor system performance in accordance with 10 CFR 50.65(a)(1) did not directly result in additional system or function failures.

Inspection Report# : [2003006\(pdf\)](#)**Significance:** Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)**Significance:** Sep 12, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT AND FOLLOW PROCEDURES FOR DIESEL GENERATOR OPERATION

A self-revealed violation of Technical Specification (TS) 5.4 occurred on August 21, 2003, when the Division 1 emergency diesel generator (EDG) failed its surveillance due to high output voltage. Technical Specification 5.4 required maintenance and implementation of procedures required by Regulatory Guide 1.33. Regulatory Guide 1.33 required procedures for EDG operation. Licensee procedures did not provide direction to perform proper EDG restoration following an automatic EDG trip.

The finding was greater than minor because it could reasonably be viewed as a precursor to a significant event and was associated with the mitigating system cornerstone attribute of equipment reliability. The finding affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the EDG was relied upon to provide emergency power to safety systems in the event of a LOOP. The finding is of very low safety significance because no damage to equipment occurred and operators would have been able to restore proper EDG output voltage. As such, no loss of safety function would have occurred.

Inspection Report# : [2003009\(pdf\)](#)**Significance:** Aug 01, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IDENTIFICATION OF EXTENT OF CONDITION ASSOCIATED WITH HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

The inspector identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality. The inspector determined that while the licensee's evaluation of the high pressure core spray pump failure to start event properly identified the root cause of this issue to be inadequate procedural guidance for cell switch alignment and inspection, the licensee failed to identify that the same procedural inadequacy existed in other licensee procedures. Specifically, the licensee inaccurately concluded that 5kv and 15kv breaker auxiliary switches were not affected by the issue.

Inspection Report# : [2003007\(pdf\)](#)



Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SHIFT AND RELIEF TURNOVER

A self-revealed violation of Technical Specification 5.4 occurred on May 7, 2003, when the licensed operator "at the controls" left the "at-the-controls" and operations area of the control room without using the appropriate procedure for shift and relief turnover. During the individual's absence, a control room annunciator was received. When the alarm was not acknowledged, two licensed operators in the "at-the-controls" area (conducting an emergency diesel generator (EDG) surveillance run) observed the "at-the-controls" operator's absence and responded to the annunciator. Operations management was not made aware of the personnel error until approximately 16.5 hours later at which time a condition report was generated and the individual was relieved of licensed operator duties pending incident review and remediation.

The finding was more than minor because it could reasonably be viewed as a precursor to a significant event. In other circumstances, a second licensed operator may not have been in the control room. Additionally, the failure to promptly identify a performance deficiency was not consistent with site expectations. The finding was of very low safety significance because the annunciator was expected due to inclined fuel transfer system operation and the licensed operator was out of the "at-the-controls" area for only approximately 20 seconds.

Inspection Report# : [2003004\(pdf\)](#)



Significance: Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to use an appropriate surveillance test procedure for the EDG using the fuel oil booster pump

NCV, 50-440/03-05-01, was identified for failure to use an appropriate surveillance test procedure in accordance with 10 CFR 50, Appendix B, Criterion V. Condition reports documented four repetitive fuse failures for the Division 2 emergency diesel generator nonsafety-related fuel oil booster pump from July 16, 2002 to September 18, 2002. Although the booster pump is nonsafety related, it is utilized as part of the emergency diesel generator start and load surveillance (surveillance instruction SVI-R43-T1318) required by Technical Specifications (TS) 3.8.1. The surveillance was not appropriate due to inclusion of a nonsafety-related, unreliable piece of equipment since during those periods when the booster pump had failed, actual diesel start time may have been outside of TS limits. The surveillance had never been run without the booster pump to demonstrate that the diesel would pass if the booster pump tripped.

This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because no failure occurred during a surveillance test or in use, this issue had very low safety significance. (Section 4OA2.b)

Inspection Report# : [2003005\(pdf\)](#)



Significance: Jun 27, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking

A self-revealing NCV, 50-440/03-05-02, was identified for inadequate corrective action to preclude repetition of high pressure core spray (HPCS) drain line cracking in accordance with 10 CFR 50, Appendix B, Criterion XVI. On May 13, 2003, following receipt of a high level sump alarm the licensee discovered a broken 3/4" HPCS drain valve on the test return line to the condensate storage tank. The broken valve sprayed water on equipment in the HPCS room which subsequently required drying and inspection. Prior to this failure, on January 11, 1998 and on April 19, 1999, the licensee had discovered and reworked the weld joint due to cracks and leakage.

This issue is more than minor because if left uncorrected it could become a more significant safety concern. Because the reactor was shut down at the time of the failure, this issue had very low safety significance. (Section 4OA2.c)

Inspection Report# : [2003005\(pdf\)](#)



Significance: Jun 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err.

The inspectors identified an NCV, 50-440/03-05-03, for failure to take corrective action as required by 10 CFR 50 Appendix B, Criterion XVI. Specifically, the licensee failed to take actions to correct deficiencies in contractor oversight which permitted contract personnel to err in ways that had the potential to adversely impact the safety of the site.

The finding is of very low safety significance because the specific items identified did not initiate an event nor result in the loss of function of a mitigating system. The inspectors determined that the violation was more than minor using guidance in Appendix B, of Inspection Manual Chapter 0612. The inspectors determined that the failure to correct this condition could reasonably be viewed as a precursor to a significant

event and, in the case of local power range monitor configuration did affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. (Section 4OA2.c)
Inspection Report# : [2003005\(pdf\)](#)

Barrier Integrity

Emergency Preparedness



Significance: **W** Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

FAILURE TO CLASSIFY AN ALERT WITHIN 15 MINUTES

The inspectors identified an apparent violation having preliminarily low to moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an ALERT level event on April 24, 2003. During this event, damage to irradiated fuel caused a high alarm on the fuel handling building ventilation exhaust gaseous radiation monitor.

After considering the information developed during the inspection and at the Regulatory Conference, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2003006\(pdf\)](#)

Inspection Report# : [2004003\(pdf\)](#)

Occupational Radiation Safety



Significance: **G** Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE CONTINUOUS RADIOLOGICAL SURVEILLANCE

A finding of very low safety significance was self-revealed during work in the reactor water clean up (RWCU) heat exchanger (HX) room when the licensee failed to provide continuous radiological surveillance (electronic telemetry dosimetry) for a worker in an area where a major portion of the body could receive in one hour a dose >3000 mrem, as required by Technical Specification 5.7.4.

The finding was more than minor because the failure to provide continuous monitoring in a high radiation area resulted in an individual worker's unplanned, unintended dose, and resulted from actions or conditions contrary to licensee Technical Specifications. This finding was associated with the "Programs and Processes" and "Human Performance" attributes of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.4.

Inspection Report# : [2003004\(pdf\)](#)



Significance: **G** Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PLACE DOSIMETRY TO PROPERLY REFLECT HIGHEST WHOLE BODY DOSE

A finding of very low safety significance was self-revealed during work in the RWCU HX room when the licensee failed to place dosimetry to properly reflect the highest whole body dose for the working position as required by licensee procedure HPI-C0005, "Radiation Work Permit Surveys and Surveillances."

The finding was more than minor because the failure to place dosimetry to properly reflect the highest whole body dose for the working position resulted in an individual worker's unplanned, unintended dose and resulted from actions or conditions contrary to licensee procedures. This finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of licensee procedure HPI-C0005.

Inspection Report# : [2003004\(pdf\)](#)



Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROPERLY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance was NRC-identified during work in the drywell when the licensee failed to properly control access to a locked high radiation area (LHRA), as required by Technical Specification 5.7.2 and 5.7.3.

The finding was more than minor because the failure to adequately control access to Technical Specification LHRAs had an impact on radiological safety (external dose) and if not corrected would become a more significant concern given the elevated dose rates that occur in accessible areas during refueling outages. The finding was associated with the "Programs and Processes" attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve as-low-as-is-reasonably-achievable ALARA planning or work controls, there was no overexposure or a substantial potential for an overexposure, and the ability to assess dose was not compromised. This was a violation of Technical Specification 5.7.3

Inspection Report# : [2003004\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Jun 27, 2003

Identified By: NRC

Item Type: FIN Finding

PI&R Biannual Summary

The team concluded that, in general, the licensee effectively identified, evaluated, and corrected plant problems. Problem identification was determined to be effective based on the limited examples of missed issues the team identified. Licensee audits and assessments also identified issues similar to NRC observations. Generally, corrective actions were appropriate based on the identified causes and were effective; however, a notable number of repetitive issues were identified indicating need to be more aggressive in resolving issues. Plant staff willingness to identify safety issues, a user friendly condition report initiation process, and a low program threshold for initiating condition reports supported a safety conscious work environment.

Inspection Report# : [2003005\(pdf\)](#)

Last modified : June 28, 2004

Perry 1 2Q/2004 Plant Inspection Findings

Initiating Events

G**Significance:** Mar 31, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

LOSS OF NORMAL POWER SUPPLY TO RPS BUS 'B'

A finding of very low safety significance was self-revealed when the normal power supply to reactor protection system (RPS) bus 'B' was lost on November 29, 2003. A comprehensive investigation by the licensee determined that an age-related failure of a contactor in the circuitry resulted in a blown fuse which de-energized RPS bus 'B.' The licensee's investigation also identified that General Electric (GE) Service Information Letter (SIL) 508 issued in 1990, if properly implemented, would have prevented the event. The licensee's immediate actions included restoration of RPS bus 'B' by transfer to the alternate power supply. The failed contactor was replaced. The primary cause of this finding was related to the cross-cutting area of Human Performance because the licensee's review of GE SIL 508 failed to identify all affected plant components.

This finding was more than minor because it was associated with reactor safety/initiating event cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because mitigating system availability was unaffected. The affected contactors were not safety-related components. Therefore, no violation of regulatory requirements occurred.

Inspection Report# : [2004002\(pdf\)](#)

Mitigating Systems

G**Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DISPOSITION IDENTIFIED IMPAIRED TORNADO BARRIERS

On April 1, 2004, a finding of very low safety significance was identified by the inspectors in that on three occasions in 2003 the licensee failed to treat identified impaired tornado barriers in accordance with established procedures. The primary cause of this finding was related to the cross-cutting area of Human Performance. The licensee's corrective actions included returning to compliance with their procedure either through repair of the door or performance of an engineering analysis of the door.

The issue was more than minor because it was associated with the Mitigating System cornerstone attribute of protection against external factors and affected the Mitigating System Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to follow procedural guidance resulted in the existence of a degraded condition without compensatory action. The issue was of very low safety significance because, if the affected door's tornado wind function was assumed to be completely failed or unavailable, the loss of function by itself (1) would not cause a plant trip; (2) would not degrade two or more trains of a multi-train safety system or function; and (3) would not degrade one or more trains of a system that supports a safety system or function. The inspectors reached their conclusion based on the position of the impaired door relative to safety-related equipment. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for equipment control.

Inspection Report# : [2004007\(pdf\)](#)**G****Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED TEST EQUIPMENT DAMAGES VALVE IN COMBUSTIBLE GAS CONTROL SYSTEM

On March 30, 2004, a self-revealed finding of very low safety significance occurred when the licensee improperly installed test equipment which subsequently damaged a valve in the combustible gas control system. The finding also affected the cross-cutting area of Human Performance because the licensee's procedure, and worker attention to detail, were both less than adequate and contributed to damaging the valve. As corrective actions, the licensee replaced the damaged portions of the valve and performed training.

The issue was more than minor because the installation error resulted in over-stressing the valve operator and extending the time the plant was in a limiting condition for operation by four days. As such, the Mitigating System Cornerstone objective of system availability and operability was adversely affected. The finding was of very low safety significance due primarily to the short duration of extended unavailability. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33

recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.
 Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNINTENTIONAL AIR-ROLL OF THE EMERGENCY DIESEL GENERATOR

On April 10, 2004, a self-revealed finding of very low safety significance occurred when the licensee unintentionally air-rolled the emergency diesel generator (EDG) following replacement of a timing relay. An investigation by the licensee revealed that the test method specified in the procedure actuated the air-start circuit but did not include steps to prevent air-roll of the EDG. This finding also affected the cross-cutting area of Human Performance because the licensee's development of the post-maintenance test failed to either inhibit air-roll of the EDG or verify the EDG could be safely air-rolled. Licensee corrective actions included conducting training for operations and planning personnel on appropriate controls during work activities.

The issue was more than minor because the finding could reasonably be viewed as a precursor to a more significant event because the air-roll was not anticipated by the licensee. The finding was of very low safety significance because no safety-related mitigation systems were affected by the issue. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW QUALITY CONTROL REQUIREMENTS OF ANSI N45.2.8 - 1975

A finding of very low significance was identified regarding the licensee's failure to establish quality control requirements described in American Nuclear Standards Institute (ANSI) N45.2.8 - 1975 for reassembling the ESW pump 'A' coupling in 1997. The primary cause of this finding was a general lack of knowledge of the quality control requirements.

This issue was more than minor because, if left uncorrected, it could lead to a more significant event. This finding was of very low safety significance because omitting the need for such inspections was a barrier to preventing the failure of the ESW pump coupling and not a direct cause of the failure. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion X. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

MISSED PRIOR OPPORTUNITIES TO IDENTIFY MISSING VENT VALVE IN THE FEEDWATER LEAKAGE CONTROL SYSTEM DURING ROOT CAUSE EVALUATION FOR CR 03-04764

A finding of very low significance was identified in the root cause evaluation for CR 03-04764, "Post-Loss of Offsite Power (LOOP) LPCS/RHR 'A' Waterleg Pump Air Binding," regarding the licensee's failure to identify several missed opportunities that included the venting procedure biennial reviews between 1985 and 1995, a 1996 design review of the RHR system, and venting issues that occurred during the 2003 refueling outage. The primary cause of this finding was an inability to conduct a thorough root cause evaluation.

The issue was more than minor because, if left uncorrected, it could be a precursor to a significant event. This finding was of very low safety significance because the failing to identify these missed opportunities would not have directly prevented air binding of the LPCS/RHR waterleg pump. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

TRAINING EFFECTIVENESS NOT ADDRESSED IN ROOT CAUSE REPORT FOR CRS 02-03972, 03-05065 AND 03-04912

A finding of very low significance was identified regarding the licensee's failure to recognize whether training was effective for the following root cause evaluations addressed in: 1) CR 03-04912 for operators not properly restoring the Division 1 EDG to standby following the loss of offsite power event that occurred on August 14, 2003; 2) CR 02-03972 for correcting maintenance craft's inability to adjust breaker linkage rods for the HPCS breaker; and 3) CR 03-05065 when the ESW pump 'A' coupling design changed from a screwed to a keyed configuration in 1985. The primary cause of this finding was the failure to recognize that effective training could have prevented these events, since these events typically involved skill-of-the-craft activities.

This issue was more than minor because if left uncorrected, it could lead to a more significant event. This finding was of very low significance because

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failure to evaluate training effectiveness was not a direct cause to these three events. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

Significance: TBD Jun 04, 2004

Identified By: Self Disclosing

Item Type: AV Apparent Violation

REPEAT FAILURE OF ESW PUMP UPPER SHAFT COUPLING

A self-revealed apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI, corrective action requirements, having a potential safety significance greater than very low occurred, on May 21, 2004, when the Division 1 emergency service water (ESW) pump failed when the uppermost split ring coupling broke in half. The primary cause for this failure was related to the cross-cutting issue of problem identification and resolution in that the licensee neither understood nor corrected the design deficiencies associated with the coupling. After a loss of ESW occurred due to a coupling failure in September 2003, the licensee did not take adequate corrective actions to preclude repetition of a significant condition adverse to quality.

This finding is unresolved pending completion of a significance determination. This finding is more than minor because it directly affects the mitigating system cornerstone objective of system operability, availability, and reliability. Specifically, the finding is associated with loss of one division of ESW for 12 days. This finding was determined to have a potential safety significance greater than very low because of the loss of one division of ESW. The licensee has replaced the pump.

Inspection Report# : [2004011\(pdf\)](#)

Significance: Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNATTENDED ITEMS LEFT IN CONTAINMENT

A finding of very low safety significance was identified by the inspectors for a violation of Technical Specification 5.4, "Procedures." A licensee procedure required that unless risk-assessed, no items shall be left unattended below the 623' 4" level in containment at any time. On February 5, 2004, the inspectors observed a large sheet of permalon by the 'A' hydraulic power unit with no workers in the area. The licensee removed the material later that same day. The primary cause of this finding was related to the cross-cutting area of Human Performance because plant personnel failed to follow licensee procedures and left material unattended in the swell region of containment.

This finding was more than minor because the inspectors concluded that it could reasonably be viewed as a precursor to a more significant event. Specifically, leaving unattended items in containment can lead to the items falling into the suppression pool without being noticed or being transported into the pool during an actual event. This material can then clog suppression pool strainers thereby reducing emergency core cooling system flow. Since no material fell into the suppression pool and no actual loss of safety function occurred, the inspectors determined the finding to be of very low safety significance. This issue was a Non-Cited Violation of Technical Specification 5.4 which required implementation of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004002\(pdf\)](#)

Significance: Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMMUNICATE THAT THE MOTOR FEED PUMP WAS TO BE PROTECTED AS REQUIRED BY ONLINE RISK MANAGEMENT STRATEGY

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 50.65(a)(4) for the licensee's failure to manage risk during a Division 1 outage on November 3, 2003. The licensee failed to communicate that the motor feed pump (MFP) was to be protected as required by their online risk management strategy. As a result, the MFP was not posted as protected equipment in accordance with site policies and procedures nor, more significantly, was control room supervision aware that the MFP required such protection. Once the condition was brought to the attention of control room personnel, the area was immediately posted.

This finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Specifically, since the control room was unaware of the need to protect the MFP, the inspectors concluded that work on or near the MFP could have been authorized. Further, without the local posting and with the absence of the MFP on the promulgated list of protected systems, workers would not have questioned the release of work on the MFP nor demonstrated heightened awareness when working in the area. In addition, had the MFP become unavailable, the plant's online risk configuration would have crossed the yellow to orange threshold. The finding was of very low safety significance because no work occurred to cause the MFP to become unavailable.

Inspection Report# : [2003010\(pdf\)](#)

Significance: Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO VERIFY COMPONENT OPERABILITY DURING SYSTEM RESTORATION FOLLOWING REMOTE SHUTDOWN SYSTEM SURVEILLANCE TESTING

The inspectors identified a non-cited violation of Technical Specification 5.4, Procedures, for the licensee's failure to perform verification of component operability during system restoration following surveillance testing of the Division 2 remote shutdown system on September 9, 2003. While the licensee tested the capability of the system to control safe shutdown systems from outside the control room, the inspectors observed that the licensee failed to verify that control capability was returned to the control room prior to declaring systems and components operable. Specifically, the licensee failed to verify reestablishment of safety-related circuit continuity, such that the components could be operated from the control room during system restoration. The inspectors additionally noted that the licensee did not test the ability of the transfer switch to isolate the control circuitry from the control room.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and the finding is associated with the objective of ensuring operability, availability, reliability and function of the safety-related systems. The inspectors determined that the finding was of very low safety significance in accordance with the Significance Determination Process Phase 1 worksheet because the continuity of the safety-related circuitry was subsequently successfully demonstrated by other licensee surveillance procedures. Therefore, no actual loss of safety function occurred.

Inspection Report# : [2003010\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004

Inspection Report# : [2004006\(pdf\)](#)

G

Significance: Sep 30, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAINTAIN FIRE BARRIERS

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 3 and Division 2 Emergency Diesel Generator (EDG) rooms. The inspectors observed that with the ventilation system operating as required for EDG operations, the fire door separating the two rooms would not close without assistance and thus, was an impairment or degradation of a fire protection feature.

This finding is greater than minor because it is associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because the separation of redundant trains of safe shutdown equipment was not compromised.

Inspection Report# : [2003006\(pdf\)](#)

G

Significance: Sep 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH PERFORMANCE CRITERIA FOR (a)(1) SYSTEMS

The inspectors identified a Non-Cited Violation of 10 CFR 50.65(a)(1) for the failure of the licensee to monitor the performance of the rod control and information system (RCIS) against licensee established goals. The licensee Maintenance Rule expert panel approved re-categorization of the system function of manual rod insertion to (a)(1) on November 6, 2002. As of September 25, 2003, the licensee had failed to establish goals for system monitoring. The inspectors identified a similar deficiency with five additional systems or system functions currently classified as (a)(1) by the licensee.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that the failure to establish goals and monitor system performance in accordance with 10 CFR 50.65(a)(1) did not directly result in additional system or function failures.

Inspection Report# : [2003006\(pdf\)](#)

W

Significance: Sep 30, 2003

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Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)**G****Significance:** Sep 12, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT AND FOLLOW PROCEDURES FOR DIESEL GENERATOR OPERATION

A self-revealed violation of Technical Specification (TS) 5.4 occurred on August 21, 2003, when the Division 1 emergency diesel generator (EDG) failed its surveillance due to high output voltage. Technical Specification 5.4 required maintenance and implementation of procedures required by Regulatory Guide 1.33. Regulatory Guide 1.33 required procedures for EDG operation. Licensee procedures did not provide direction to perform proper EDG restoration following an automatic EDG trip.

The finding was greater than minor because it could reasonably be viewed as a precursor to a significant event and was associated with the mitigating system cornerstone attribute of equipment reliability. The finding affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the EDG was relied upon to provide emergency power to safety systems in the event of a LOOP. The finding is of very low safety significance because no damage to equipment occurred and operators would have been able to restore proper EDG output voltage. As such, no loss of safety function would have occurred.

Inspection Report# : [2003009\(pdf\)](#)**G****Significance:** Aug 01, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IDENTIFICATION OF EXTENT OF CONDITION ASSOCIATED WITH HIGH PRESSURE CORE SPRAY PUMP FAILURE TO START

The inspector identified a licensee performance deficiency involving a Non-Cited Violation for failure to promptly identify and correct a condition adverse to quality. The inspector determined that while the licensee's evaluation of the high pressure core spray pump failure to start event properly identified the root cause of this issue to be inadequate procedural guidance for cell switch alignment and inspection, the licensee failed to identify that the same procedural inadequacy existed in other licensee procedures. Specifically, the licensee inaccurately concluded that 5kv and 15kv breaker auxiliary switches were not affected by the issue.

Inspection Report# : [2003007\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

W**Significance:** Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

FAILURE TO CLASSIFY AN ALERT WITHIN 15 MINUTES

The inspectors identified an apparent violation having preliminarily low to moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an ALERT level event on April 24, 2003. During this event, damage to irradiated fuel caused a high alarm on the fuel handling building ventilation exhaust gaseous radiation monitor.

After considering the information developed during the inspection and at the Regulatory Conference, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

[This item closed in Supplemental Inspection Report 05000440/2004009.]

Inspection Report# : [2003006\(pdf\)](#)
Inspection Report# : [2004003\(pdf\)](#)
Inspection Report# : [2004009\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : September 08, 2004

Perry 1

3Q/2004 Plant Inspection Findings

Initiating Events

G**Significance:** Mar 31, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

LOSS OF NORMAL POWER SUPPLY TO RPS BUS 'B'

A finding of very low safety significance was self-revealed when the normal power supply to reactor protection system (RPS) bus 'B' was lost on November 29, 2003. A comprehensive investigation by the licensee determined that an age-related failure of a contactor in the circuitry resulted in a blown fuse which de-energized RPS bus 'B.' The licensee's investigation also identified that General Electric (GE) Service Information Letter (SIL) 508 issued in 1990, if properly implemented, would have prevented the event. The licensee's immediate actions included restoration of RPS bus 'B' by transfer to the alternate power supply. The failed contactor was replaced. The primary cause of this finding was related to the cross-cutting area of Human Performance because the licensee's review of GE SIL 508 failed to identify all affected plant components.

This finding was more than minor because it was associated with reactor safety/initiating event cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because mitigating system availability was unaffected. The affected contactors were not safety-related components. Therefore, no violation of regulatory requirements occurred.

Inspection Report# : [2004002\(pdf\)](#)

Mitigating Systems

Significance: N/A Sep 30, 2004

Identified By: NRC

Item Type: FIN Finding

REPETITIVE FAILURE TO IMPLEMENT ON-LINE RISK MANAGEMENT STRATEGY

The inspectors identified a finding of very low safety significance for the licensee's repetitive failure to identify and correct issues associated with the implementation of on-line risk management. On June 29, 2004, the inspectors identified that the licensee failed to establish the appropriate protected train postings during a planned Division 3 emergency diesel generator unavailability. This occurred on the licensee's first opportunity to implement a new internal procedure (revision dated June 22, 2004) for posting protected equipment, following the November 3, 2003, failure to post the motor feed pump as protected during a Division 1 outage. The licensee took immediate corrective action to correct the identified posting deficiency and commenced a complete walkdown of all required postings. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was greater than minor because if left uncorrected it could evolve into a more significant safety concern. This was previously demonstrated when the motor feed pump was left unprotected in November 2003. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance, in that in this instance, the repetitive failure to implement on-line risk management did not result in a substantive increase in on-line risk due to the short duration of the elevated risk configuration (less than three hours actual unavailability); no work was scheduled on the improperly posted equipment; no personnel were observed in the area; and it is not a likely "transit" area for personnel. The finding was not considered a violation of regulatory requirements because the licensee programs and procedures for the management of on-line risk are not 10 CFR Part 50, Appendix B programs or procedures.

Inspection Report# : [2004013\(pdf\)](#)**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSTRUMENTATION CALIBRATION

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XII. On July 7, 2004, the licensee failed to ensure that instrumentation used to measure diesel room temperature was calibrated with sufficient accuracy to ensure diesel generator starting air operability. After the inspectors discussed instrument accuracy with the licensee, the licensee implemented a reduced control temperature to account for instrument inaccuracy. The finding also affected the cross-cutting issue of Human Performance because the licensee's staff failed to recognize that instrument accuracy must be considered when establishing operating limits.

The inspectors determined that the licensee's failure to establish limits sufficient to ensure that limits in the operability evaluation were not exceeded was more than minor because it could reasonably be a precursor to a more significant event. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MOST SEVERE LIMITING FUEL OIL RETURN LINE FRETTING

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, the licensee identified fretting on emergency diesel generator (EDG) fuel oil return lines but did not measure the depth of the worst fret and erroneously declared operability based on a less severe fret. After the issue was brought to their attention on August 12, 2004, the licensee performed vibration measurements and performed calculations on the pipe to determine available margin. This analysis concluded that minimal margin existed and that the EDG could no longer be considered operable. The licensee declared the EDG inoperable, replaced the fretted section of pipe, and performed a successful post-maintenance test of the EDG. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it directly affected the mitigating system cornerstone objective of equipment reliability. The inspectors concluded that without repair, the pipe fret would have progressed to the point of fuel leakage and the diesel would not have been able to fulfill its mission. The inspectors concluded that there was no loss of safety function; therefore, the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MISALIGNED AUXILIARY SWITCH

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, non-licensed operators failed to identify that the auxiliary switch in the control complex chilled water system 'A' chiller breaker cubicle was misaligned. After the condition was brought to the attention of the licensee on August 13, 2004, immediate corrective action was taken to align the switch later that same day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be a precursor to a more significant event. In fact, the issue was similar to the failure to properly align the high pressure core spray system pump breaker cell switch which resulted in the failure of the pump to start in October 2002. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO SPECIFY ADEQUATE TESTING PROTOCOL AND ACCEPTANCE CRITERIA

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XI. The inspectors determined that the combination of licensee testing protocol and established acceptance criteria was inadequate to demonstrate check valve position as required by Technical Specification 5.5.6 and American Society of Mechanical Engineers Code for reactor core isolation cooling condensate storage tank suction check valve 1E51-F011. Specifically, on July 12, 2004, the surveillance procedure failed to establish steady-state flow conditions at the outlet of the test piping prior to data collection necessary for the verification of check valve position. Additionally, operators used non-calibrated timing and liquid collection devices while obtaining data. The net effect of the procedural deficiencies was the collection of meaningless data. The licensee corrected the deficiency by reperforming the surveillance with appropriate controls and instrumentation prior to declaring the check valve operable and initiated corrective action to obtain and implement the use of accurate flow measuring devices during future performance of the surveillance. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was greater than minor because it was directly associated with the mitigating systems cornerstone objective of mitigating system availability and operability. The inspectors concluded that with the observed test methodology and acceptance criteria, an operator could credibly conclude the check valve was shut when in fact it was open. The finding was of very low safety significance because the operator performing the July 12, 2004 surveillance determined the valve to have failed the surveillance test despite inconclusive test data. As such, reactor core isolation cooling suction remained aligned to the suppression pool and system operability was maintained.

Inspection Report# : [2004013\(pdf\)](#)

G**Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DISPOSITION IDENTIFIED IMPAIRED TORNADO BARRIERS

On April 1, 2004, a finding of very low safety significance was identified by the inspectors in that on three occasions in 2003 the licensee failed to treat identified impaired tornado barriers in accordance with established procedures. The primary cause of this finding was related to the cross-cutting area of Human Performance. The licensee's corrective actions included returning to compliance with their procedure either through repair of the door or performance of an engineering analysis of the door.

The issue was more than minor because it was associated with the Mitigating System cornerstone attribute of protection against external factors and affected the Mitigating System Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to follow procedural guidance resulted in the existence of a degraded condition without compensatory action. The issue was of very low safety significance because, if the affected door's tornado wind function was assumed to be completely failed or unavailable, the loss of function by itself (1) would not cause a plant trip; (2) would not degrade two or more trains of a multi-train safety system or function; and (3) would not degrade one or more trains of a system that supports a safety system or function. The inspectors reached their conclusion based on the position of the impaired door relative to safety-related equipment. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for equipment control.

Inspection Report# : [2004007\(pdf\)](#)**G****Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED TEST EQUIPMENT DAMAGES VALVE IN COMBUSTIBLE GAS CONTROL SYSTEM

On March 30, 2004, a self-revealed finding of very low safety significance occurred when the licensee improperly installed test equipment which subsequently damaged a valve in the combustible gas control system. The finding also affected the cross-cutting area of Human Performance because the licensee's procedure, and worker attention to detail, were both less than adequate and contributed to damaging the valve. As corrective actions, the licensee replaced the damaged portions of the valve and performed training.

The issue was more than minor because the installation error resulted in over-stressing the valve operator and extending the time the plant was in a limiting condition for operation by four days. As such, the Mitigating System Cornerstone objective of system availability and operability was adversely affected. The finding was of very low safety significance due primarily to the short duration of extended unavailability. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)**G****Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNINTENTIONAL AIR-ROLL OF THE EMERGENCY DIESEL GENERATOR

On April 10, 2004, a self-revealed finding of very low safety significance occurred when the licensee unintentionally air-rolled the emergency diesel generator (EDG) following replacement of a timing relay. An investigation by the licensee revealed that the test method specified in the procedure actuated the air-start circuit but did not include steps to prevent air-roll of the EDG. This finding also affected the cross-cutting area of Human Performance because the licensee's development of the post-maintenance test failed to either inhibit air-roll of the EDG or verify the EDG could be safely air-rolled. Licensee corrective actions included conducting training for operations and planning personnel on appropriate controls during work activities.

The issue was more than minor because the finding could reasonably be viewed as a precursor to a more significant event because the air-roll was not anticipated by the licensee. The finding was of very low safety significance because no safety-related mitigation systems were affected by the issue. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)**G****Significance:** Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW QUALITY CONTROL REQUIREMENTS OF ANSI N45.2.8 - 1975

A finding of very low significance was identified regarding the licensee's failure to establish quality control requirements described in American Nuclear Standards Institute (ANSI) N45.2.8 - 1975 for reassembling the ESW pump 'A' coupling in 1997. The primary cause of this finding was a general lack of knowledge of the quality control requirements.

This issue was more than minor because, if left uncorrected, it could lead to a more significant event. This finding was of very low safety significance because omitting the need for such inspections was a barrier to preventing the failure of the ESW pump coupling and not a direct cause of the failure. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion X. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

MISSED PRIOR OPPORTUNITIES TO IDENTIFY MISSING VENT VALVE IN THE FEEDWATER LEAKAGE CONTROL SYSTEM DURING ROOT CAUSE EVALUATION FOR CR 03-04764

A finding of very low significance was identified in the root cause evaluation for CR 03-04764, "Post-Loss of Offsite Power (LOOP) LPCS/RHR 'A' Waterleg Pump Air Binding," regarding the licensee's failure to identify several missed opportunities that included the venting procedure biennial reviews between 1985 and 1995, a 1996 design review of the RHR system, and venting issues that occurred during the 2003 refueling outage. The primary cause of this finding was an inability to conduct a thorough root cause evaluation.

The issue was more than minor because, if left uncorrected, it could be a precursor to a significant event. This finding was of very low safety significance because the failing to identify these missed opportunities would not have directly prevented air binding of the LPCS/RHR waterleg pump. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

TRAINING EFFECTIVENESS NOT ADDRESSED IN ROOT CAUSE REPORT FOR CRS 02-03972, 03-05065 AND 03-04912

A finding of very low significance was identified regarding the licensee's failure to recognize whether training was effective for the following root cause evaluations addressed in: 1) CR 03-04912 for operators not properly restoring the Division 1 EDG to standby following the loss of offsite power event that occurred on August 14, 2003; 2) CR 02-03972 for correcting maintenance craft's inability to adjust breaker linkage rods for the HPCS breaker; and 3) CR 03-05065 when the ESW pump 'A' coupling design changed from a screwed to a keyed configuration in 1985. The primary cause of this finding was the failure to recognize that effective training could have prevented these events, since these events typically involved skill-of-the-craft activities.

This issue was more than minor because if left uncorrected, it could lead to a more significant event. This finding was of very low significance because failure to evaluate training effectiveness was not a direct cause to these three events. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNATTENDED ITEMS LEFT IN CONTAINMENT

A finding of very low safety significance was identified by the inspectors for a violation of Technical Specification 5.4, "Procedures." A licensee procedure required that unless risk-assessed, no items shall be left unattended below the 623' 4" level in containment at any time. On February 5, 2004, the inspectors observed a large sheet of permalon by the 'A' hydraulic power unit with no workers in the area. The licensee removed the material later that same day. The primary cause of this finding was related to the cross-cutting area of Human Performance because plant personnel failed to follow licensee procedures and left material unattended in the swell region of containment.

This finding was more than minor because the inspectors concluded that it could reasonably be viewed as a precursor to a more significant event. Specifically, leaving unattended items in containment can lead to the items falling into the suppression pool without being noticed or being transported into the pool during an actual event. This material can then clog suppression pool strainers thereby reducing emergency core cooling system flow. Since no material fell into the suppression pool and no actual loss of safety function occurred, the inspectors determined the finding to be of very low safety significance. This issue was a Non-Cited Violation of Technical Specification 5.4 which required implementation of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004002\(pdf\)](#)

G

Significance: Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMMUNICATE THAT THE MOTOR FEED PUMP WAS TO BE PROTECTED AS REQUIRED BY ONLINE RISK MANAGEMENT STRATEGY

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 50.65(a)(4) for the licensee's failure to manage risk during a Division 1 outage on November 3, 2003. The licensee failed to communicate that the motor feed pump (MFP) was to be protected as required by their online risk management strategy. As a result, the MFP was not posted as protected equipment in accordance with site policies and procedures nor, more significantly, was control room supervision aware that the MFP required such protection. Once the condition was brought to the attention of control room personnel, the area was immediately posted.

This finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Specifically, since the control room was unaware of the need to protect the MFP, the inspectors concluded that work on or near the MFP could have been authorized. Further, without the local posting and with the absence of the MFP on the promulgated list of protected systems, workers would not have questioned the release of work on the MFP nor demonstrated heightened awareness when working in the area. In addition, had the MFP become unavailable, the plant's online risk configuration would have crossed the yellow to orange threshold. The finding was of very low safety significance because no work occurred to cause the MFP to become unavailable.

Inspection Report# : [2003010\(pdf\)](#)

G

Significance: **G** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO VERIFY COMPONENT OPERABILITY DURING SYSTEM RESTORATION FOLLOWING REMOTE SHUTDOWN SYSTEM SURVEILLANCE TESTING

The inspectors identified a non-cited violation of Technical Specification 5.4, Procedures, for the licensee's failure to perform verification of component operability during system restoration following surveillance testing of the Division 2 remote shutdown system on September 9, 2003. While the licensee tested the capability of the system to control safe shutdown systems from outside the control room, the inspectors observed that the licensee failed to verify that control capability was returned to the control room prior to declaring systems and components operable. Specifically, the licensee failed to verify reestablishment of safety-related circuit continuity, such that the components could be operated from the control room during system restoration. The inspectors additionally noted that the licensee did not test the ability of the transfer switch to isolate the control circuitry from the control room.

This finding is greater than minor because it was associated with the mitigating system cornerstone attribute of equipment reliability and the finding is associated with the objective of ensuring operability, availability, reliability and function of the safety-related systems. The inspectors determined that the finding was of very low safety significance in accordance with the Significance Determination Process Phase 1 worksheet because the continuity of the safety-related circuitry was subsequently successfully demonstrated by other licensee surveillance procedures. Therefore, no actual loss of safety function occurred.

Inspection Report# : [2003010\(pdf\)](#)

W

Significance: **W** Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004

Inspection Report# : [2004006\(pdf\)](#)

W

Significance: **W** Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump

shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.
Inspection Report# : [2004005\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : December 29, 2004

Perry 1 4Q/2004 Plant Inspection Findings

Initiating Events

G**Significance:** Mar 31, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

LOSS OF NORMAL POWER SUPPLY TO RPS BUS 'B'

A finding of very low safety significance was self-revealed when the normal power supply to reactor protection system (RPS) bus 'B' was lost on November 29, 2003. A comprehensive investigation by the licensee determined that an age-related failure of a contactor in the circuitry resulted in a blown fuse which de-energized RPS bus 'B.' The licensee's investigation also identified that General Electric (GE) Service Information Letter (SIL) 508 issued in 1990, if properly implemented, would have prevented the event. The licensee's immediate actions included restoration of RPS bus 'B' by transfer to the alternate power supply. The failed contactor was replaced. The primary cause of this finding was related to the cross-cutting area of Human Performance because the licensee's review of GE SIL 508 failed to identify all affected plant components.

This finding was more than minor because it was associated with reactor safety/initiating event cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because mitigating system availability was unaffected. The affected contactors were not safety-related components. Therefore, no violation of regulatory requirements occurred.

Inspection Report# : [2004002\(pdf\)](#)

Mitigating Systems

G**Significance:** Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY A DEGRADED FIRE BARRIER

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 1 emergency diesel generator (EDG) room and the EDG building corridor. The finding was not considered a violation of regulatory requirements. The inspectors identified a fire door that was not latched and therefore was not fully capable of providing its required function of preventing fire spread and maintaining CO₂ suppression within the confines of the Division 1 EDG room. Once identified, the licensee immediately established a watch on the door and completed repairs later that day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it was associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because risk-significant equipment in the exposed area had at least 20 minutes of protection due to passive barriers.

Inspection Report# : [2004015\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

REINSTALLATION OF NONCONFORMING RELIEF VALVE

A finding of very low safety significance was identified by the inspectors on December 3 for a violation of 10 CFR 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components." Specifically, on October 25, while attempting to locate a relief valve which had failed as-found set pressure testing, the licensee determined that a nonconforming relief valve had been reinstalled in the Division 2 emergency diesel generator lube oil system during the divisional outage earlier that month. Once the improper installation was identified, the licensee initiated both an operability determination and a work package to replace the relief valve. The valve was replaced on October 26. While reviewing the licensee's apparent cause of the reinstallation, the inspectors identified that the licensee failed to identify or address noncompliance with quality control requirements as specified in Nuclear Repair Manual NRM, Section 15, "Nonconforming Material or Items," Rev. 4. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it could reasonably be a precursor to a more significant event. This issue had very low safety

significance because it did not involve a loss of safety function.

Inspection Report# : [2004015\(pdf\)](#)

Significance: N/A Sep 30, 2004

Identified By: NRC

Item Type: FIN Finding

REPETITIVE FAILURE TO IMPLEMENT ON-LINE RISK MANAGEMENT STRATEGY

The inspectors identified a finding of very low safety significance for the licensee's repetitive failure to identify and correct issues associated with the implementation of on-line risk management. On June 29, 2004, the inspectors identified that the licensee failed to establish the appropriate protected train postings during a planned Division 3 emergency diesel generator unavailability. This occurred on the licensee's first opportunity to implement a new internal procedure (revision dated June 22, 2004) for posting protected equipment, following the November 3, 2003, failure to post the motor feed pump as protected during a Division 1 outage. The licensee took immediate corrective action to correct the identified posting deficiency and commenced a complete walkdown of all required postings. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was greater than minor because if left uncorrected it could evolve into a more significant safety concern. This was previously demonstrated when the motor feed pump was left unprotected in November 2003. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance, in that in this instance, the repetitive failure to implement on-line risk management did not result in a substantive increase in on-line risk due to the short duration of the elevated risk configuration (less than three hours actual unavailability); no work was scheduled on the improperly posted equipment; no personnel were observed in the area; and it is not a likely "transit" area for personnel. The finding was not considered a violation of regulatory requirements because the licensee programs and procedures for the management of on-line risk are not 10 CFR Part 50, Appendix B programs or procedures.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: G Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSTRUMENTATION CALIBRATION

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XII. On July 7, 2004, the licensee failed to ensure that instrumentation used to measure diesel room temperature was calibrated with sufficient accuracy to ensure diesel generator starting air operability. After the inspectors discussed instrument accuracy with the licensee, the licensee implemented a reduced control temperature to account for instrument inaccuracy. The finding also affected the cross-cutting issue of Human Performance because the licensee's staff failed to recognize that instrument accuracy must be considered when establishing operating limits.

The inspectors determined that the licensee's failure to establish limits sufficient to ensure that limits in the operability evaluation were not exceeded was more than minor because it could reasonably be a precursor to a more significant event. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: G Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MOST SEVERE LIMITING FUEL OIL RETURN LINE FRETTING

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, the licensee identified fretting on emergency diesel generator (EDG) fuel oil return lines but did not measure the depth of the worst fret and erroneously declared operability based on a less severe fret. After the issue was brought to their attention on August 12, 2004, the licensee performed vibration measurements and performed calculations on the pipe to determine available margin. This analysis concluded that minimal margin existed and that the EDG could no longer be considered operable. The licensee declared the EDG inoperable, replaced the fretted section of pipe, and performed a successful post-maintenance test of the EDG. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it directly affected the mitigating system cornerstone objective of equipment reliability. The inspectors concluded that without repair, the pipe fret would have progressed to the point of fuel leakage and the diesel would not have been able to fulfill its mission. The inspectors concluded that there was no loss of safety function; therefore, the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: G Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MISALIGNED AUXILIARY SWITCH

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, non-licensed operators failed to identify that the auxiliary switch in the control complex

chilled water system 'A' chiller breaker cubicle was misaligned. After the condition was brought to the attention of the licensee on August 13, 2004, immediate corrective action was taken to align the switch later that same day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be a precursor to a more significant event. In fact, the issue was similar to the failure to properly align the high pressure core spray system pump breaker cell switch which resulted in the failure of the pump to start in October 2002. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO SPECIFY ADEQUATE TESTING PROTOCOL AND ACCEPTANCE CRITERIA

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XI. The inspectors determined that the combination of licensee testing protocol and established acceptance criteria was inadequate to demonstrate check valve position as required by Technical Specification 5.5.6 and American Society of Mechanical Engineers Code for reactor core isolation cooling condensate storage tank suction check valve 1E51-F011. Specifically, on July 12, 2004, the surveillance procedure failed to establish steady-state flow conditions at the outlet of the test piping prior to data collection necessary for the verification of check valve position. Additionally, operators used non-calibrated timing and liquid collection devices while obtaining data. The net effect of the procedural deficiencies was the collection of meaningless data. The licensee corrected the deficiency by reperforming the surveillance with appropriate controls and instrumentation prior to declaring the check valve operable and initiated corrective action to obtain and implement the use of accurate flow measuring devices during future performance of the surveillance. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was greater than minor because it was directly associated with the mitigating systems cornerstone objective of mitigating system availability and operability. The inspectors concluded that with the observed test methodology and acceptance criteria, an operator could credibly conclude the check valve was shut when in fact it was open. The finding was of very low safety significance because the operator performing the July 12, 2004 surveillance determined the valve to have failed the surveillance test despite inconclusive test data. As such, reactor core isolation cooling suction remained aligned to the suppression pool and system operability was maintained.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DISPOSITION IDENTIFIED IMPAIRED TORNADO BARRIERS

On April 1, 2004, a finding of very low safety significance was identified by the inspectors in that on three occasions in 2003 the licensee failed to treat identified impaired tornado barriers in accordance with established procedures. The primary cause of this finding was related to the cross-cutting area of Human Performance. The licensee's corrective actions included returning to compliance with their procedure either through repair of the door or performance of an engineering analysis of the door.

The issue was more than minor because it was associated with the Mitigating System cornerstone attribute of protection against external factors and affected the Mitigating System Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to follow procedural guidance resulted in the existence of a degraded condition without compensatory action. The issue was of very low safety significance because, if the affected door's tornado wind function was assumed to be completely failed or unavailable, the loss of function by itself (1) would not cause a plant trip; (2) would not degrade two or more trains of a multi-train safety system or function; and (3) would not degrade one or more trains of a system that supports a safety system or function. The inspectors reached their conclusion based on the position of the impaired door relative to safety-related equipment. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for equipment control.

Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED TEST EQUIPMENT DAMAGES VALVE IN COMBUSTIBLE GAS CONTROL SYSTEM

On March 30, 2004, a self-revealed finding of very low safety significance occurred when the licensee improperly installed test equipment which subsequently damaged a valve in the combustible gas control system. The finding also affected the cross-cutting area of Human Performance because the licensee's procedure, and worker attention to detail, were both less than adequate and contributed to damaging the valve. As corrective actions, the licensee replaced the damaged portions of the valve and performed training.

The issue was more than minor because the installation error resulted in over-stressing the valve operator and extending the time the plant was in a limiting condition for operation by four days. As such, the Mitigating System Cornerstone objective of system availability and operability

was adversely affected. The finding was of very low safety significance due primarily to the short duration of extended unavailability. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNINTENTIONAL AIR-ROLL OF THE EMERGENCY DIESEL GENERATOR

On April 10, 2004, a self-revealed finding of very low safety significance occurred when the licensee unintentionally air-rolled the emergency diesel generator (EDG) following replacement of a timing relay. An investigation by the licensee revealed that the test method specified in the procedure actuated the air-start circuit but did not include steps to prevent air-roll of the EDG. This finding also affected the cross-cutting area of Human Performance because the licensee's development of the post-maintenance test failed to either inhibit air-roll of the EDG or verify the EDG could be safely air-rolled. Licensee corrective actions included conducting training for operations and planning personnel on appropriate controls during work activities.

The issue was more than minor because the finding could reasonably be viewed as a precursor to a more significant event because the air-roll was not anticipated by the licensee. The finding was of very low safety significance because no safety-related mitigation systems were affected by the issue. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW QUALITY CONTROL REQUIREMENTS OF ANSI N45.2.8 - 1975

A finding of very low significance was identified regarding the licensee's failure to establish quality control requirements described in American Nuclear Standards Institute (ANSI) N45.2.8 - 1975 for reassembling the ESW pump 'A' coupling in 1997. The primary cause of this finding was a general lack of knowledge of the quality control requirements.

This issue was more than minor because, if left uncorrected, it could lead to a more significant event. This finding was of very low safety significance because omitting the need for such inspections was a barrier to preventing the failure of the ESW pump coupling and not a direct cause of the failure. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion X. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

MISSED PRIOR OPPORTUNITIES TO IDENTIFY MISSING VENT VALVE IN THE FEEDWATER LEAKAGE CONTROL SYSTEM DURING ROOT CAUSE EVALUATION FOR CR 03-04764

A finding of very low significance was identified in the root cause evaluation for CR 03-04764, "Post-Loss of Offsite Power (LOOP) LPCS/RHR 'A' Waterleg Pump Air Binding," regarding the licensee's failure to identify several missed opportunities that included the venting procedure biennial reviews between 1985 and 1995, a 1996 design review of the RHR system, and venting issues that occurred during the 2003 refueling outage. The primary cause of this finding was an inability to conduct a thorough root cause evaluation.

The issue was more than minor because, if left uncorrected, it could be a precursor to a significant event. This finding was of very low safety significance because the failing to identify these missed opportunities would not have directly prevented air binding of the LPCS/RHR waterleg pump. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

TRAINING EFFECTIVENESS NOT ADDRESSED IN ROOT CAUSE REPORT FOR CRS 02-03972, 03-05065 AND 03-04912

A finding of very low significance was identified regarding the licensee's failure to recognize whether training was effective for the following root cause evaluations addressed in: 1) CR 03-04912 for operators not properly restoring the Division 1 EDG to standby following the loss of

offsite power event that occurred on August 14, 2003; 2) CR 02-03972 for correcting maintenance craft's inability to adjust breaker linkage rods for the HPCS breaker; and 3) CR 03-05065 when the ESW pump 'A' coupling design changed from a screwed to a keyed configuration in 1985. The primary cause of this finding was the failure to recognize that effective training could have prevented these events, since these events typically involved skill-of-the-craft activities.

This issue was more than minor because if left uncorrected, it could lead to a more significant event. This finding was of very low significance because failure to evaluate training effectiveness was not a direct cause to these three events. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNATTENDED ITEMS LEFT IN CONTAINMENT

A finding of very low safety significance was identified by the inspectors for a violation of Technical Specification 5.4, "Procedures." A licensee procedure required that unless risk-assessed, no items shall be left unattended below the 623' 4" level in containment at any time. On February 5, 2004, the inspectors observed a large sheet of permalon by the 'A' hydraulic power unit with no workers in the area. The licensee removed the material later that same day. The primary cause of this finding was related to the cross-cutting area of Human Performance because plant personnel failed to follow licensee procedures and left material unattended in the swell region of containment.

This finding was more than minor because the inspectors concluded that it could reasonably be viewed as a precursor to a more significant event. Specifically, leaving unattended items in containment can lead to the items falling into the suppression pool without being noticed or being transported into the pool during an actual event. This material can then clog suppression pool strainers thereby reducing emergency core cooling system flow. Since no material fell into the suppression pool and no actual loss of safety function occurred, the inspectors determined the finding to be of very low safety significance. This issue was a Non-Cited Violation of Technical Specification 5.4 which required implementation of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004002\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004

Inspection Report# : [2004006\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Barrier Integrity

G**Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED SCAFFOLDING

A finding of very low safety significance was self-revealed on October 25, 2004, for a violation of Technical Specification 5.4, "Procedures." On October 25, after operations initiated the clearance (tagout) for the maintenance activities, maintenance personnel noticed that the linear converter shaft for the damper was pressing down into the scaffold that was built directly underneath the component. On October 18 the licensee installed a scaffold underneath the annulus exhaust gas treatment system (AEGTS) exhaust damper 'B' which interfered with the movement of the component's linear converter shaft and prohibited the full opening of the damper. The AEGTS 'B' train was thus rendered inoperable due to the interference of the scaffold onto the damper. Once identified, the licensee declared the system inoperable, took prompt action to reposition the scaffold, and performed testing of the damper to assess potential damage. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it was associated with the reactor safety cornerstone attribute of barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because, per Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the finding only represented a degradation of the radiological barrier function of the AEGTS.

Inspection Report# : [2004015\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER USE OF FIX-IT-NOW PROCESS TO ADJUST VALVE PACKING

A finding of very low safety significance was self-revealed on November 17 for a violation of Technical Specification 5.4 "Procedures." Specifically, contrary to the requirements of NOP-WM-9001 "FIN/Toolpouch Maintenance Process" the Fix-It-Now process was used to adjust the packing on the demineralized water system containment isolation valve P22-F0010. As a consequence, the licensee used an incorrect procedure to adjust the packing, failed to perform post-maintenance testing on the valve and failed to stroke the valve to consolidate the packing. Once identified, the licensee took prompt action to perform valve maintenance and subsequent testing for satisfactory valve performance. The primary cause was related to the cross-cutting area of Human Performance.

The finding was more than minor because it could reasonably be a precursor to a more significant event. Specifically, key steps to ensure proper valve operation were omitted from the work process. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barriers Cornerstone. The inspectors determined the finding did not involve an actual open pathway in the physical integrity of the reactor containment and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2004015\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: N/A Jan 16, 2004

Identified By: NRC

Item Type: FIN Finding

White Performance Indicator in the Occupational Radiation Protection Cornerstone

The NRC performed this supplemental inspection to assess the licensee's root cause evaluations, extent of condition determination, and corrective actions for the WHITE Occupational Exposure Control Effectiveness performance indicator. During this supplemental inspection, performed in accordance with Inspection Procedure 95001, the inspector concluded that the licensee had developed comprehensive root cause evaluations and completed a corrective action plan to address this issues surrounding the WHITE performance indicator, as well as other potential 10 CFR Part 20 radiation protection concerns.

Inspection Report# : [2004004\(pdf\)](#)

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : March 09, 2005

Perry 1

1Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INSTRUMENTATION AND CONTROL TECHNICIAN ERROR RESULTS IN INADVERTENT ESF ACTUATION

A finding of very low safety significance and a violation of Technical Specification 5.4, "Procedures" was self-revealed on February 3, 2005. Specifically, while calibrating the containment/drywell purge exhaust radiation monitor 1D17-K660, an error by an instrumentation and control (I&C) technician resulted in an engineered safety feature (ESF) actuation. Specifically, backup hydrogen purge system containment isolation valves M51-F090 and M51-F110 received an isolation signal. The valves functioned as designed and isolated the backup drywell hydrogen purge system. Control room personnel realigned the backup drywell hydrogen purge system in accordance with the system operating instruction. Additional I&C personnel reset the trip signal and completed the calibration procedure successfully. The primary cause of this finding was related to the cross-cutting issue of Human Performance because a personnel error was the primary cause of the event.

The inspectors determined that an inadvertent ESF actuation due to improper performance of an I&C procedure was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss of coolant accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO EVALUATE AND DOCUMENT THE REMOVAL OF A MODE RESTRAINT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to properly assess and document the assessment for the removal of restart restraints prior to resuming reactor operation subsequent to the December 23, 2004, scram, and that the failure to appropriately close and document the basis for resolving a mode restraint prior to startup impaired the licensee's ability to identify the associated failure mechanism for the December 23 recirculation pump downshift event. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affects the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)**G****Significance:** Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The finding involved the licensee's failure to quarantine equipment after both reactor recirculation pumps experienced an unplanned downshift from fast to slow speed on December 23, 2004. The inspectors determined that the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism for the simultaneous downshifting of both reactor recirculation pumps. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism, and as a result, a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affected the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety

significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE INDUSTRY OPERATING EXPERIENCE INTO PREVENTATIVE MAINTENANCE ACTIVITIES

A self-revealed finding of very low significance and a Non-Cited Violation of 10 CFR 50.65(a)(3) was identified. The finding involved the transient initiated as a result of a trip of "A" reactor recirculation pump low frequency motor generator and subsequent manual scram of the reactor. The Non-Cited Violation was associated with a failure to incorporate industry operating experience into preventive maintenance activities that would have prevented the failure of the "A" reactor recirculation pump. The primary cause of this violation was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because the event caused an actual upset in plant stability and operation resulting in a plant transient, thereby directly affecting the objective for the Initiating Events Cornerstone. Additionally, the trip affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. Proposed and completed corrective actions included a formal root cause analysis, replacement of the defective voltage regulator, and establishment of a process to review post-transient performance data.

Inspection Report# : [2005005\(pdf\)](#)

Mitigating Systems

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SCAFFOLD CONSTRUCTION IN SAFETY-RELATED AREAS

Inspectors identified a finding of very low safety significance and a violation of Technical Specification 5.4 when, during a walkdown of the high pressure core spray (HPCS) system, inspectors observed that the scaffolding constructed in the Division 3 emergency diesel generator (EDG) and HPCS pump rooms failed to meet the seismic clearance requirements specified in licensee procedure GCI-0016, "Scaffolding Erection, Modification or Dismantling Guidelines," Revision 4. The inspectors observed that the procedural deviations were not evaluated by engineering to ensure that the safety-related HPCS system would not be adversely impacted during a seismic event. Additionally, inspectors noted that the scaffolding constructions in the Division 3 EDG and HPCS pump rooms were not tracked as a temporary alteration as required by Perry Administrative Procedure (PAP)-0204, "Housekeeping/Cleanliness Control Program," Revision 14. The primary cause of this finding was the failure to implement appropriate procedures for construction of scaffolding that could affect safety-related equipment. The primary cause was related to the cross-cutting area of Human Performance in that the licensee failed to follow both procedures, GCI-0016 and PAP-0204.

The finding was more than minor because, if left uncorrected, the failure to follow procedures for scaffold construction in safety-related areas would become a more significant safety concern. Additionally, the failure to follow procedures designed to protect safety-related equipment from scaffold construction adversely affects the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to be of very low safety significance because, assuming HPCS was rendered inoperable following a seismic event due to non-seismic scaffolding, Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic events and the operability of other mitigating systems. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures for performing maintenance on safety-related systems.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TS 5.4 REQUIRED PLANT FIRE PROCEDURES FOR DISCOVERY OF A FIRE

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on January 13, 2005, when a chemistry technician failed to promptly notify the control room upon discovery of an unexpected fire. The fire was located in the chemistry oil

lab room of the control complex building within the protected area. The primary cause of this finding was related to the cross-cutting area of Human Performance. The chemistry technician failed to recognize that, in accordance with the Fire Protection Program, prompt notification to the control room is required when a fire is discovered.

The finding was more than minor because the failure to promptly report a fire prevents plant operators in the control room and other plant personnel from taking prompt and appropriate action pursuant to Fire Protection Program procedures. The resulting failure to implement the Fire Protection Program procedure on discovery of a fire degrades the facility's ability to meet the cornerstone objective of mitigating systems. Although not suitable for Significance Determination Process review, the finding was determined, by regional management, to be of very low safety significance in that (1) the finding did not affect the operability of the automatic fire detection and suppression systems in the affected fire zone, (2) the fire zone was outside of the vital area of the plant, and (3) the fire zone did not contain safe shutdown systems. Additionally, there was no identified damage to safety-related equipment due to the fire, and the fire was observed to be confined to an oven.

Inspection Report# : [2005002\(pdf\)](#)

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE RESTORATION OF IRM 'A'

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed during a reactor start-up on January 30, 2005, when the intermediate-range monitor (IRM) 'A' instrument was discovered to be inoperable after reactor criticality had been achieved. Prior to start-up, it had been established that IRM 'C' was inoperable. The inoperability of both IRM 'A' and IRM 'C' resulted in operability of less than the minimum required number of IRM channels per trip system of the reactor protection system (RPS) for Mode 2 operation. The licensee entered the appropriate Technical Specification action statement and, as required by licensee procedure, commenced a normal reactor shutdown. The primary cause of this finding was the failure to implement appropriate procedures during maintenance activities on IRM 'A'. A cable connection between the intermediate-range detector and the intermediate-range instrument was left loosely attached at the conclusion of the maintenance activity. This rendered the IRM 'A' instrument inoperable. Additionally, the maintenance procedure lacked appropriate acceptance criteria for determining that the maintenance had been satisfactorily accomplished. The primary cause of this finding was related to the cross-cutting area of Human Performance in that technicians failed to adequately attach and verify connection of the cable in the IRM 'A' system.

The finding was more than minor because it resulted in a reactor start-up and operation in Mode 2 with less than the required number of IRM trip function channels per RPS trip system. This degraded the plant's ability to meet the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, the finding resulted in an unplanned reactor shutdown. The finding was of very low safety significance because RPS trip capability was maintained due to designed redundancy in the system logic. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures covering the intermediate-range nuclear instrument system.

Inspection Report# : [2005002\(pdf\)](#)

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION AFTER IDENTIFYING THAT ERRONEOUS OR UNEXPLAINABLE DATA WAS RECORDED DURING TS REQUIRED TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on January 18, 2005. Specifically, the licensee failed to take prompt corrective action after identifying on January 17, 2005, that erroneous or unexplainable data was recorded during Technical Specification required emergency closed cooling water (ECCW) 'B' pump and valve operability testing. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. After the inspectors brought the issue to the attention of control room personnel, the licensee initiated action to re-code the surveillance as "no credit" based on suspect data. Action was also initiated to reschedule the surveillance prior to its overdue date of February 4, 2005. The licensee's subsequent performance of the surveillance test was not properly performed which resulted in a missed Technical Specification 5.5.6 surveillance and an additional 10 CFR 50, Appendix B, Criterion XVI violation was identified by the inspectors. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements.

The inspectors concluded that the failure of a system engineer, an engineering supervisor, and a senior reactor operator to take action to correct an identified condition adverse to quality was more than minor in that it could reasonably be viewed as a precursor to a significant event and, with respect to the performance of Technical Specification required surveillance testing, was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that ECCW 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATE CREW PERFORMANCE DURING ECCW TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on February 7, 2005. Specifically, the licensee failed to identify and correct a condition adverse to quality following the inspectors' identification, on January 18, 2005, of an improperly performed Technical Specification required surveillance. As a result of the licensee's failure to properly evaluate the January 5, 2005, performance deficiency and take appropriate corrective action, the surveillance test was again performed improperly on February 1, 2005. In addition to causing unnecessary safety system unavailability during repetitive performances of the procedure, the inadequate performance of the test on February 1, 2005, resulted in a missed Technical Specification 5.5.6 surveillance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements. An apparent cause investigation was initiated to review surveillance performance issues.

The inspectors concluded that the failure of the licensee to adequately address performance issues with respect to a Technical Specification required surveillance procedure was more than minor in that it could reasonably be viewed as a precursor to a significant event and, in this case, resulted in a second improper performance and a missed Technical Specification surveillance. Additionally, the issue was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that emergency closed cooling water 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INADVERTENT ESTABLISHMENT OF FLOW PATH FROM SUPPRESSION POOL TO AUXILIARY BUILDING FLOOR DRAINS DURING RHR LLRT

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 27, 2005. Specifically, while performing a local leak rate test (LLRT) for the residual heat removal (RHR) 'A' suppression pool suction valve, 1E12-F004A, the valve was opened with the RHR 'A' system drained and vented. As a result, the suppression pool began draining through an open 8 inch drain valve and then overflowed to the auxiliary building floor. The draining was terminated within minutes when the valve was closed per the next step in the LLRT procedure.

The inspectors determined that inadvertent draining of the suppression pool to the auxiliary building floor was a performance deficiency warranting a significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. The inspectors determined that the finding: (1) did not increase the likelihood of a loss of reactor coolant system (RCS) inventory; (2) did not degrade the licensee's ability to terminate a leak path or add RCS inventory when needed; and (3) did not degrade the licensee's ability to recover decay heat removal if lost. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in a loss of suppression pool volume.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IMPLEMENTATION OF TS 3.4.10 FOR ALTERNATE HEAT DECAY REMOVAL

Inspectors identified a finding of very low safety significance for the licensee's failure to adequately implement Technical Specification 3.4.10 requirements for alternate decay heat removal methods as amended to the license during the Technical Specification improvement program to adopt Technical Specifications based on NUREG-1434 (Improved Standard Technical Specifications). The finding was considered to be a Non-Cited Violation of 10 CFR 50.36(c)(2)(I). The licensee has initiated action to install an alternate decay heat removal system.

The inspectors determined that the licensee's failure to adequately implement Technical Specification 3.4.10 was more than minor because it was directly associated with the mitigating system cornerstone objective of availability of a mitigating system. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that (1) the Mode 4 conditions were maintained by the inoperable, but running, RHR 'B' system and (2) the licensee maintained vacuum within the condenser to provide a method of decay heat removal had coolant temperature rose sufficiently to produce steam.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AND PERFORM TROUBLESHOOTING WITHOUT FULL BENEFIT OF A TROUBLESHOOTING PLAN

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to quarantine equipment. The inspectors determined the failure to quarantine the motor feed pump (MFP) breaker cubicle impaired the licensee's ability to identify the

associated failure mechanism for the January 6, 2005 failure of the MFP breaker to close. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine the MFP breaker after the January 6, 2005 failure, if left uncorrected, could become a more significant safety concern. The finding affected the short term heat removal element of the Mitigating System Cornerstone and that the issue was not a design deficiency that resulted in a loss of function. The finding was of very low safety significance because the system was not a safety system and that the system was not a TS system. In addition, the finding did not represent an actual loss of safety function or equipment designed as risk-significant per 10 CFR 50.65 for greater than 24 hours, the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event, therefore the finding screened as Green. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

Significance: Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE GUIDANCE TO REFURBISH BREAKERS WITHIN VENDOR-SPECIFIED TIME FRAMES OR TO PROVIDE REASONABLE ALTERNATIVE PREVENTATIVE MAINTENANCE PRACTICES

The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation of Technical Specifications for inadequate safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to refurbish breakers within the vendor's specified time frames or provide reasonable alternative preventative maintenance practices to ensure that safety-related breakers remained operable.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specification Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The issue was entered into the licensee's corrective action program and is being evaluated under multiple condition reports (CR 05-0187, CR 05-00230, CR 05-00253, CR 05-00274, CR 05-00283, CR 05-00295, CR 05-00359, CR 05-00459).

Inspection Report# : [2005005\(pdf\)](#)

Significance: Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE THE VENDOR'S GAP REQUIREMENTS INTO OPERATIONS MANUAL INSTRUCTIONS

The inspectors identified a finding having very low safety significance and associated Non-Cited Violation of Technical Specifications for inadequate procedures associated with safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to measure and monitor critical measurements identified by the vendor.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specifications Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The finding was entered into the licensee's corrective action program and is being evaluated under condition reports CR 05-00364 and CR 05-00095.

Inspection Report# : [2005005\(pdf\)](#)

Significance: Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY A DEGRADED FIRE BARRIER

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 1 emergency diesel generator (EDG) room and the EDG building corridor. The finding was not considered a violation of regulatory requirements. The inspectors identified a fire door that was not latched and therefore was not fully capable of providing its required function of preventing fire spread and maintaining CO₂ suppression within the confines of the Division 1 EDG room. Once identified, the licensee immediately established a watch on the door and completed repairs later that day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it was associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because risk-significant equipment in the exposed area had at least 20 minutes of protection due to passive barriers.

Inspection Report# : [2004015\(pdf\)](#)

G**Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

REINSTALLATION OF NONCONFORMING RELIEF VALVE

A finding of very low safety significance was identified by the inspectors on December 3 for a violation of 10 CFR 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components." Specifically, on October 25, while attempting to locate a relief valve which had failed as-found set pressure testing, the licensee determined that a nonconforming relief valve had been reinstalled in the Division 2 emergency diesel generator lube oil system during the divisional outage earlier that month. Once the improper installation was identified, the licensee initiated both an operability determination and a work package to replace the relief valve. The valve was replaced on October 26. While reviewing the licensee's apparent cause of the reinstallation, the inspectors identified that the licensee failed to identify or address noncompliance with quality control requirements as specified in Nuclear Repair Manual NRM, Section 15, "Nonconforming Material or Items," Rev. 4. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it could reasonably be a precursor to a more significant event. This issue had very low safety significance because it did not involve a loss of safety function.

Inspection Report# : [2004015\(pdf\)](#)**Significance:** N/A Sep 30, 2004

Identified By: NRC

Item Type: FIN Finding

REPETITIVE FAILURE TO IMPLEMENT ON-LINE RISK MANAGEMENT STRATEGY

The inspectors identified a finding of very low safety significance for the licensee's repetitive failure to identify and correct issues associated with the implementation of on-line risk management. On June 29, 2004, the inspectors identified that the licensee failed to establish the appropriate protected train postings during a planned Division 3 emergency diesel generator unavailability. This occurred on the licensee's first opportunity to implement a new internal procedure (revision dated June 22, 2004) for posting protected equipment, following the November 3, 2003, failure to post the motor feed pump as protected during a Division 1 outage. The licensee took immediate corrective action to correct the identified posting deficiency and commenced a complete walkdown of all required postings. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was greater than minor because if left uncorrected it could evolve into a more significant safety concern. This was previously demonstrated when the motor feed pump was left unprotected in November 2003. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance, in that in this instance, the repetitive failure to implement on-line risk management did not result in a substantive increase in on-line risk due to the short duration of the elevated risk configuration (less than three hours actual unavailability); no work was scheduled on the improperly posted equipment; no personnel were observed in the area; and it is not a likely "transit" area for personnel. The finding was not considered a violation of regulatory requirements because the licensee programs and procedures for the management of on-line risk are not 10 CFR Part 50, Appendix B programs or procedures.

Inspection Report# : [2004013\(pdf\)](#)**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSTRUMENTATION CALIBRATION

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XII. On July 7, 2004, the licensee failed to ensure that instrumentation used to measure diesel room temperature was calibrated with sufficient accuracy to ensure diesel generator starting air operability. After the inspectors discussed instrument accuracy with the licensee, the licensee implemented a reduced control temperature to account for instrument inaccuracy. The finding also affected the cross-cutting issue of Human Performance because the licensee's staff failed to recognize that instrument accuracy must be considered when establishing operating limits.

The inspectors determined that the licensee's failure to establish limits sufficient to ensure that limits in the operability evaluation were not exceeded was more than minor because it could reasonably be a precursor to a more significant event. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MOST SEVERE LIMITING FUEL OIL RETURN LINE FRETTING

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, the licensee identified fretting on emergency diesel generator (EDG) fuel oil return lines but did not measure the depth of the worst fret and erroneously declared operability based on a less severe fret. After the issue was brought to their attention on August 12, 2004, the licensee performed vibration measurements and performed calculations on the pipe to determine available margin. This analysis concluded that minimal margin existed and that the EDG could no longer be considered operable. The licensee declared the EDG inoperable, replaced the fretted section of pipe, and performed a successful post-maintenance test of the EDG. The primary

cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it directly affected the mitigating system cornerstone objective of equipment reliability. The inspectors concluded that without repair, the pipe fret would have progressed to the point of fuel leakage and the diesel would not have been able to fulfill its mission. The inspectors concluded that there was no loss of safety function; therefore, the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MISALIGNED AUXILIARY SWITCH

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, non-licensed operators failed to identify that the auxiliary switch in the control complex chilled water system 'A' chiller breaker cubicle was misaligned. After the condition was brought to the attention of the licensee on August 13, 2004, immediate corrective action was taken to align the switch later that same day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be a precursor to a more significant event. In fact, the issue was similar to the failure to properly align the high pressure core spray system pump breaker cell switch which resulted in the failure of the pump to start in October 2002. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO SPECIFY ADEQUATE TESTING PROTOCOL AND ACCEPTANCE CRITERIA

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XI. The inspectors determined that the combination of licensee testing protocol and established acceptance criteria was inadequate to demonstrate check valve position as required by Technical Specification 5.5.6 and American Society of Mechanical Engineers Code for reactor core isolation cooling condensate storage tank suction check valve 1E51-F011. Specifically, on July 12, 2004, the surveillance procedure failed to establish steady-state flow conditions at the outlet of the test piping prior to data collection necessary for the verification of check valve position. Additionally, operators used non-calibrated timing and liquid collection devices while obtaining data. The net effect of the procedural deficiencies was the collection of meaningless data. The licensee corrected the deficiency by reperforming the surveillance with appropriate controls and instrumentation prior to declaring the check valve operable and initiated corrective action to obtain and implement the use of accurate flow measuring devices during future performance of the surveillance. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was greater than minor because it was directly associated with the mitigating systems cornerstone objective of mitigating system availability and operability. The inspectors concluded that with the observed test methodology and acceptance criteria, an operator could credibly conclude the check valve was shut when in fact it was open. The finding was of very low safety significance because the operator performing the July 12, 2004 surveillance determined the valve to have failed the surveillance test despite inconclusive test data. As such, reactor core isolation cooling suction remained aligned to the suppression pool and system operability was maintained.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DISPOSITION IDENTIFIED IMPAIRED TORNADO BARRIERS

On April 1, 2004, a finding of very low safety significance was identified by the inspectors in that on three occasions in 2003 the licensee failed to treat identified impaired tornado barriers in accordance with established procedures. The primary cause of this finding was related to the cross-cutting area of Human Performance. The licensee's corrective actions included returning to compliance with their procedure either through repair of the door or performance of an engineering analysis of the door.

The issue was more than minor because it was associated with the Mitigating System cornerstone attribute of protection against external factors and affected the Mitigating System Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to follow procedural guidance resulted in the existence of a degraded condition without compensatory action. The issue was of very low safety significance because, if the affected door's tornado wind function was assumed to be completely failed or unavailable, the loss of function by itself (1) would not cause a plant trip; (2) would not degrade two or more trains of a multi-train safety system or function; and (3) would not degrade one or more trains of a system that supports a safety system or function. The inspectors reached their conclusion based on the position of the impaired door relative to safety-related equipment. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in

Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for equipment control.
Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED TEST EQUIPMENT DAMAGES VALVE IN COMBUSTIBLE GAS CONTROL SYSTEM

On March 30, 2004, a self-revealed finding of very low safety significance occurred when the licensee improperly installed test equipment which subsequently damaged a valve in the combustible gas control system. The finding also affected the cross-cutting area of Human Performance because the licensee's procedure, and worker attention to detail, were both less than adequate and contributed to damaging the valve. As corrective actions, the licensee replaced the damaged portions of the valve and performed training.

The issue was more than minor because the installation error resulted in over-stressing the valve operator and extending the time the plant was in a limiting condition for operation by four days. As such, the Mitigating System Cornerstone objective of system availability and operability was adversely affected. The finding was of very low safety significance due primarily to the short duration of extended unavailability. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNINTENTIONAL AIR-ROLL OF THE EMERGENCY DIESEL GENERATOR

On April 10, 2004, a self-revealed finding of very low safety significance occurred when the licensee unintentionally air-rolled the emergency diesel generator (EDG) following replacement of a timing relay. An investigation by the licensee revealed that the test method specified in the procedure actuated the air-start circuit but did not include steps to prevent air-roll of the EDG. This finding also affected the cross-cutting area of Human Performance because the licensee's development of the post-maintenance test failed to either inhibit air-roll of the EDG or verify the EDG could be safely air-rolled. Licensee corrective actions included conducting training for operations and planning personnel on appropriate controls during work activities.

The issue was more than minor because the finding could reasonably be viewed as a precursor to a more significant event because the air-roll was not anticipated by the licensee. The finding was of very low safety significance because no safety-related mitigation systems were affected by the issue. The issue was an NCV of Technical Specification 5.4 which required the implementation of procedures as recommended in Regulatory Guide 1.33. Regulatory Guide 1.33 recommended the establishment of procedures for performing maintenance that can affect the performance of safety-related equipment.

Inspection Report# : [2004007\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW QUALITY CONTROL REQUIREMENTS OF ANSI N45.2.8 - 1975

A finding of very low significance was identified regarding the licensee's failure to establish quality control requirements described in American Nuclear Standards Institute (ANSI) N45.2.8 - 1975 for reassembling the ESW pump 'A' coupling in 1997. The primary cause of this finding was a general lack of knowledge of the quality control requirements.

This issue was more than minor because, if left uncorrected, it could lead to a more significant event. This finding was of very low safety significance because omitting the need for such inspections was a barrier to preventing the failure of the ESW pump coupling and not a direct cause of the failure. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion X. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

MISSED PRIOR OPPORTUNITIES TO IDENTIFY MISSING VENT VALVE IN THE FEEDWATER LEAKAGE CONTROL SYSTEM DURING ROOT CAUSE EVALUATION FOR CR 03-04764

A finding of very low significance was identified in the root cause evaluation for CR 03-04764, "Post-Loss of Offsite Power (LOOP) LPSC/RHR 'A' Waterleg Pump Air Binding," regarding the licensee's failure to identify several missed opportunities that included the venting procedure biennial reviews between 1985 and 1995, a 1996 design review of the RHR system, and venting issues that occurred during the 2003

refueling outage. The primary cause of this finding was an inability to conduct a thorough root cause evaluation.

The issue was more than minor because, if left uncorrected, it could be a precursor to a significant event. This finding was of very low safety significance because the failing to identify these missed opportunities would not have directly prevented air binding of the LPCS/RHR waterleg pump. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

G

Significance: Jun 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

TRAINING EFFECTIVENESS NOT ADDRESSED IN ROOT CAUSE REPORT FOR CRS 02-03972, 03-05065 AND 03-04912

A finding of very low significance was identified regarding the licensee's failure to recognize whether training was effective for the following root cause evaluations addressed in: 1) CR 03-04912 for operators not properly restoring the Division 1 EDG to standby following the loss of offsite power event that occurred on August 14, 2003; 2) CR 02-03972 for correcting maintenance craft's inability to adjust breaker linkage rods for the HPCS breaker; and 3) CR 03-05065 when the ESW pump 'A' coupling design changed from a screwed to a keyed configuration in 1985. The primary cause of this finding was the failure to recognize that effective training could have prevented these events, since these events typically involved skill-of-the-craft activities.

This issue was more than minor because if left uncorrected, it could lead to a more significant event. This finding was of very low significance because failure to evaluate training effectiveness was not a direct cause to these three events. This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion XVI. To address this issue, the licensee entered it into the corrective action program because the failure was programmatic in nature and not in need of an immediate corrective action.

Inspection Report# : [2004008\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004

Inspection Report# : [2004006\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

G**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFETY EVALUATION FOR THE NOBLECHEMTM PROCESS

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to perform an adequate safety evaluation review as required by 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. The licensee initiated a NobleChemTM process, which involved deposition of noble metals on primary plant components, but failed to provide a basis for the determination that this change was acceptable without a license amendment. Specifically, the safety evaluation failed to address the impact of the NobleChemTM process on the fuel peak cladding temperature in a post loss-of-coolant accident environment due to catalytic action involving two exothermic reactions.

Because the Significance Determination Process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, this issue was dispositioned using the traditional enforcement process in accordance with Section IV of the NRC Enforcement Policy. However, the results of the violation, that is, the failure to fully evaluate the NobleChemTM process, were assessed using the Significance Determination Process.

The inspectors considered this issue of more than minor significance, because the finding could have become a more significant safety concern in that, the licensee failed to demonstrate through a documented analysis that the integrity of fuel cladding was not affected by the NobleChemTM process. Because a subsequent vendor analysis adequately demonstrated the integrity of fuel cladding, it was determined that the licensee's failure to provide an adequate basis for the safety evaluation 01-0007 was an issue of very low safety significance and the violation of 10 CFR 50.59 was classified as a Severity Level IV Non-Cited Violation, consistent with the NRC Enforcement Policy.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

DROPPED JET PUMP PLUG

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 28, 2005. Specifically, while removing a jet pump plug assembly from the reactor vessel, the plug broke loose from the handling pole and roped L-hook while being lifted over the refuel floor auxiliary platform. As a result, the plug dropped approximately 60 feet, primarily through water, and landed on top of several fuel bundles in the reactor core.

The inspectors determined that dropping a jet pump plug assembly, weighing approximately 25 pounds, onto the top of the reactor core was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the dropped plug was subsequently determined to not have caused damage to the fuel. The finding affected the cross-cutting issue of Human Performance because a personnel error caused the plug to be dropped.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INADVERTENT CONTROL ROD WITHDRAWAL

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on March 10, 2005. Specifically, while attempting to verify the position of control rod 18-55, a senior reactor operator (SRO) inadvertently withdrew control rod 58-35 from position 00 to position 02. Upon recognition of the condition, the SRO took the Technical Specification required actions and immediately reinserted the control rod.

The inspectors determined that a personnel error that resulted in the inadvertent withdrawal of a control rod was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the rod movement had minimal impact of reactivity as evidenced by the lack of response by source range instrumentation and subsequent licensee shutdown margin assessment. Further, the error was immediately recognized and the control rod was inserted to position 00 in less than 15 seconds. Additionally, the SRO's use of the withdraw pushbutton self-limited the movement to one notch. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in an inadvertent step withdrawal of a control rod.

Inspection Report# : [2005002\(pdf\)](#)

G**Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED SCAFFOLDING

A finding of very low safety significance was self-revealed on October 25, 2004, for a violation of Technical Specification 5.4, "Procedures." On October 25, after operations initiated the clearance (tagout) for the maintenance activities, maintenance personnel noticed that the linear converter shaft for the damper was pressing down into the scaffold that was built directly underneath the component. On October 18 the licensee installed a scaffold underneath the annulus exhaust gas treatment system (AEGTS) exhaust damper 'B' which interfered with the movement of the component's linear converter shaft and prohibited the full opening of the damper. The AEGTS 'B' train was thus rendered inoperable due to the interference of the scaffold onto the damper. Once identified, the licensee declared the system inoperable, took prompt action to reposition the scaffold, and performed testing of the damper to assess potential damage. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it was associated with the reactor safety cornerstone attribute of barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because, per Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the finding only represented a degradation of the radiological barrier function of the AEGTS.

Inspection Report# : [2004015\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER USE OF FIX-IT-NOW PROCESS TO ADJUST VALVE PACKING

A finding of very low safety significance was self-revealed on November 17 for a violation of Technical Specification 5.4 "Procedures." Specifically, contrary to the requirements of NOP-WM-9001 "FIN/Toolpouch Maintenance Process" the Fix-It-Now process was used to adjust the packing on the demineralized water system containment isolation valve P22-F0010. As a consequence, the licensee used an incorrect procedure to adjust the packing, failed to perform post-maintenance testing on the valve and failed to stroke the valve to consolidate the packing. Once identified, the licensee took prompt action to perform valve maintenance and subsequent testing for satisfactory valve performance. The primary cause was related to the cross-cutting area of Human Performance.

The finding was more than minor because it could reasonably be a precursor to a more significant event. Specifically, key steps to ensure proper valve operation were omitted from the work process. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barriers Cornerstone. The inspectors determined the finding did not involve an actual open pathway in the physical integrity of the reactor containment and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2004015\(pdf\)](#)

Emergency Preparedness

W**Significance:** Nov 19, 2004

Identified By: NRC

Item Type: VIO Violation

Failure to Perform Emergency Dose Assessment During an Alert Within 15 minutes Required by EAL HA1

The inspectors identified an apparent violation having preliminarily low-to-moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an Alert level event declared on July 20, 2004. During this event, the licensee staff failed to perform a Computer Aided Dose Assessment Program (CADAP) run within 15 minutes of the Alert declaration as required by the licensee's Emergency Plan.

The finding was determined to be greater than minor because it affected the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the issue was more than minor because it represented a failure to implement a regulatory requirement during a real event which could have prevented the correct emergency classification. The finding was preliminarily determined to be of low to moderate safety significance because the licensee failed to implement a risk significant planning standard (10 CFR 50.47(b)(4)) during an actual Alert emergency.

After considering the information developed during the inspection and the additional information provided in your January 26, 2005, letter, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2004016\(pdf\)](#)Inspection Report# : [2005007\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : June 17, 2005

Perry 1

2Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: FIN Finding

UNTIMELY HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance for the licensee's failure to sufficiently coordinate and adequately prepare for the onset of hot weather prior to May 1, 2005. Specifically, the licensee failed to complete work associated with critical components, in accordance with established expectations that specified completion prior to April 30, 2005. As a result, critical tasks had not been completed prior to the onset of near record warm weather beginning June 5, 2005.

The inspectors determined that the issue was more than minor because, if left uncorrected, the finding would become a more significant safety concern. The finding was also associated with the reactor safety initiating events cornerstone and affected the cornerstone's objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because no safety-related functions or mitigating systems were rendered inoperable and no plant transient was initiated. No violation of NRC requirements occurred.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY THE EFFECT OF DEENERGIZING BUS K-1-D ON DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of 10 CFR 50.65(a)(4) was self-revealed during preparation for an electrical distribution panel F1F14 outage on April 4, 2005. The reactor was shutdown at the time of the event. Specifically, the licensee failed to identify the impact of planned breaker manipulations on the fuel pool cooling and cleanup (FPCC) system. Per an Operations Evolution Order, the K-1-D electrical bus was de-energized which de-energized the fuel pool filter demineralizer (FPFD) control panel, H51-P173. As a result, the demineralizer flow control valves shut. The flow control valve repositioned and reduced FPCC flow to the reactor cavity pool from 720 gpm to 520 gpm and flow to the spent fuel pool from 700 gpm to 600 gpm. At the time of the event, FPCC was the primary method of decay heat removal. Numerous alarms were received in the control room. Control room personnel assessed the transient and within 30 minutes opened the FPCC fuel pool filter demineralizer bypass valve to restore proper flow to the reactor pool and spent fuel pool. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to properly assess the impact of a planned maintenance activity on a key shutdown safety function.

The finding was more than minor because the failure to identify the impact of the planned maintenance activity adversely affected a protected train of equipment providing the key shutdown safety function of decay heat removal. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it adversely affected the FPCC decay heat removal function. The finding was of very low safety significance because FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of 10 CFR 50.65(a)(4) which required the licensee to assess and manage the increase in risk that may result from proposed maintenance activities.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INADVERTENT LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed during preparation for Division 2 loss of off-site power (LOOP) testing on April 5, 2005. The reactor was shutdown at the time of the event. Valves in the cooling water supply path to the FPCC system heat exchangers were unintentionally isolated. This resulted in loss of decay heat removal from the reactor pool and spent fuel pool for approximately two hours. Operators subsequently discovered the valves were out of position, restored the system to the correct lineup, and restored decay heat removal. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to implement procedures as written. Specifically, the licensee personnel performing the test preparations performed a procedure step out of sequence which resulted in the loss of cooling water to the FPCC heat exchangers.

The finding was more than minor because the failure to follow procedures resulted in a loss of cooling for the reactor pool and spent fuel pool for approximately two hours. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control, and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it resulted in loss of FPCC decay heat removal function. The finding was of very low safety significance because the FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of TS 5.4 which required the implementation of written surveillance test procedures. Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES AFFECTING SAFETY-RELATED DIVISION 3 BREAKERS

A finding of very low safety significance and a violation of TS 5.4, "Procedures," was self-revealed on April 21, 2005. While the plant was shutdown for a refuel outage, the licensee conducted LOOP response testing of the Division 3 high pressure core spray (HPCS) emergency diesel generator (EDG). The procedure required the installation of a jumper between terminal points in the HPCS preferred source breaker cubicle, EH1303. Contrary to procedure, technicians installed the jumper in the alternate preferred source breaker cubicle EH1302. The error was identified when control room operators attempted to close breaker EH1302 and it did not close as expected. The jumper was subsequently removed from the EH1302 cubicle without consequence. The primary cause of this finding was related to the cross-cutting issue of Human Performance. Specifically, licensee technicians failed to perform the procedure as written and failed to use independent verification and, as a result, installed the jumper in the wrong cubicle.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Additionally, if left uncorrected, the failure to follow procedures affecting safety-related equipment would become a more significant safety concern. The inspectors determined that the finding was of very low safety significance because the finding did not involve a loss of safety function. Inspection Report# : [2005006\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS CONTROL ROD MOVEMENT CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to implement adequate corrective actions for root causes associated with a significant condition adverse to quality. Specifically, the licensee identified "management failures in identifying problems with reactivity control systems" as a root cause for unexpected control rod movement, however licensee corrective actions failed to address this issue.

The team determined that the finding was of more than minor significance since it could be reasonably viewed as a precursor to a more significant event. Specifically, the corrective action intended to address management's oversight of the reactivity control systems did not address the licensee's identified cause and did not cover all activities that involve significant rod movement such as short forced outages and control rod pattern changes.

Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no initiating event occurred.

As part of the licensee's corrective actions, Condition Report 03-05995 was previously generated to address organizational issues through the use of the Plant Health Committee, clarification of the roles and responsibilities of managers and directors, and to develop the Perry PII.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS TRAINING DEVIATION CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct in a timely manner a condition adverse to quality regarding operators' failure to use required human performance error reduction tools during stressful situations. The finding was of more than minor significance because the finding could reasonably be viewed as a precursor to a significant event since the continued deviation from established procedures and training during stressful times had the potential to result in an initiating event or result in more significant consequence following an initiating event.

Using IMC 0609, "Significance Determination Process," the team determined that this finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, human performance tools were implemented which addressed the importance of procedure adherence during events and other stressful situations.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to take corrective actions to address a condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INSTRUMENTATION AND CONTROL TECHNICIAN ERROR RESULTS IN INADVERTENT ESF ACTUATION

A finding of very low safety significance and a violation of Technical Specification 5.4, "Procedures" was self-revealed on February 3, 2005. Specifically, while calibrating the containment/drywell purge exhaust radiation monitor 1D17-K660, an error by an instrumentation and control (I&C) technician resulted in an engineered safety feature (ESF) actuation. Specifically, backup hydrogen purge system containment isolation valves M51-F090 and M51-F110 received an isolation signal. The valves functioned as designed and isolated the backup drywell hydrogen purge system. Control room personnel realigned the backup drywell hydrogen purge system in accordance with the system operating instruction. Additional I&C personnel reset the trip signal and completed the calibration procedure successfully. The primary cause of this finding was related to the cross-cutting issue of Human Performance because a personnel error was the primary cause of the event.

The inspectors determined that an inadvertent ESF actuation due to improper performance of an I&C procedure was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss of coolant accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO EVALUATE AND DOCUMENT THE REMOVAL OF A MODE RESTRAINT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to properly assess and document the assessment for the removal of restart restraints prior to resuming reactor operation subsequent to the December 23, 2004, scram, and that the failure to appropriately close and document the basis for resolving a mode restraint prior to startup impaired the licensee's ability to identify the associated failure mechanism for the December 23 recirculation pump downshift event. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affects the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The finding involved the licensee's failure to quarantine equipment after both reactor recirculation pumps experienced an unplanned downshift from fast to slow speed on December 23, 2004. The inspectors determined that the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism for the simultaneous downshifting of both reactor recirculation pumps. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism, and as a result, a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affected the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G**Significance:** Feb 18, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE INDUSTRY OPERATING EXPERIENCE INTO PREVENTATIVE MAINTENANCE ACTIVITIES

A self-revealed finding of very low significance and a Non-Cited Violation of 10 CFR 50.65(a)(3) was identified. The finding involved the transient initiated as a result of a trip of "A" reactor recirculation pump low frequency motor generator and subsequent manual scram of the reactor. The Non-Cited Violation was associated with a failure to incorporate industry operating experience into preventive maintenance activities that would have prevented the failure of the "A" reactor recirculation pump. The primary cause of this violation was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because the event caused an actual upset in plant stability and operation resulting in a plant transient, thereby directly affecting the objective for the Initiating Events Cornerstone. Additionally, the trip affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. Proposed and completed corrective actions included a formal root cause analysis, replacement of the defective voltage regulator, and establishment of a process to review post-transient performance data.

Inspection Report# : [2005005\(pdf\)](#)

Mitigating Systems

G**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATELY THREADED BOLTS ON RHR 'B'/'C' WATERLEG PUMP

The inspectors identified a finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify the inadequate thread engagement of two bolts on the residual heat removal (RHR) 'B'/'C' waterleg pump discharge flange. Inspectors identified the non-conforming condition during a walkdown of the RHR 'C' system while RHR 'C' was designated as the primary water inventory source for the shutdown reactor. Inspectors promptly reported the condition to the licensee and the licensee entered it into the corrective action program. The licensee performed corrective maintenance to fix the inadequate thread engagement on May 19, 2005. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. The failure to identify and correct inadequate thread engagement on bolted connections could allow premature failure and leakage from the connection. Additionally, the finding was associated with the reactor safety mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to identify and correct non-conforming conditions on safety-related equipment degrades the reliability of the system to perform its safety function. The inspectors determined that the finding did not involve the loss of safety function and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE DESIGN REVIEW FOR TESTABLE RUPTURE DISK MODIFICATION

A finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on February 17, 2005, when the Division 2 EDG testable rupture disc (TRD) required excess force to lift during surveillance testing. A newly designed Division 2 TRD had been installed in October 2004 in an effort to address long-standing equipment performance issues. A similar design was installed on the Division 1 EDG in November 2004 and on the Division 3 EDG in April 2004. After the test failure on February 17, 2005, subsequent licensee inspection identified that the disc was warped. Due to potential common cause issues, the licensee declared all three EDGs inoperable and entered TS Limiting Condition for Operation (LCO) 3.0.3. The licensee unlatched all EDG TRDs to restore operability. The licensee's design review for the TRD did not adequately consider the potential for and the effect of deformation of the TRD disc due to heat. Additionally, the licensee's testing of the design modification was determined to be inadequate. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to perform an adequate design review.

The finding was more than minor because it affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of the EDGs in response to initiating events. Specifically, if the TRD failed to lift at the appropriate pressure, excessive back-

pressure would adversely affect fuel consumption rates. Further, if the TRD failed to open with the normal EDG exhaust blocked, conditions could be established which would result in stalling of the EDG. The finding was determined to be of very low safety significance because Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic and tornado events.

Inspection Report# : [2005006\(pdf\)](#)

Significance: SL-IV Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

UNREPORTED SAFETY-SYSTEM UNAVAILABILITY FOR RHR

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to report residual heat removal (RHR) train 'B' unavailability from May 29, 2004, through June 3, 2004, while the emergency service water train 'B' was inoperable for pump repairs. The second quarter 2004 data reported to the NRC included RHR 'A' unavailability following failure of the ESW 'A' pump on May 21, 2004, but did not include the subsequent RHR 'B' unavailability. Prior to removing the ESW 'B' pump from service, the licensee developed a reactor pressure vessel feed and bleed method which they subsequently credited as an alternate decay heat removal system when calculating RHR system unavailability. The inspectors, however, reviewed the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, and could not conclude that the licensee's method met the "NRC approved method of decay heat removal." Due to the inspectors' concerns, the licensee submitted a "Frequently Asked Question." On May 19, 2005, the NRC determined that "NRC approval means a specific method or methods described in the technical specifications." As a result, the licensee recalculated and resubmitted RHR system unavailability on June 17, 2005. Had the performance indicator (PI) data been properly reported in the second quarter of 2004, the PI color would have been White. The failure to properly report the PI was considered a Severity Level IV Non-Cited Violation of 10 CFR 50.9.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: G May 26, 2005

Identified By: Self Disclosing

Item Type: FIN Finding

DRYWELL SUPPLY FAN TRIPS DUE TO INADEQUATE MAINTENANCE

A finding of very low safety significance was self-revealed when repetitive drywell supply fan failures occurred due to inadequate maintenance and inadequate corrective actions to address a previous failure due to an identical root cause. No violation of regulatory requirements occurred.

The finding was of more than minor significance since the finding could reasonably be viewed as a precursor to a more significant event since identically designed fans existed in other risk-significant plant systems and a failure of those fans, under similar circumstances, could have also occurred.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected fan was repaired and an extent of condition review was performed.

This finding affected the cross-cutting area of Problem Identification and Resolution since the finding involved inadequate corrective actions to address a previous failure.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: G May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SLC RELIEF VALVE TEST FAILURES

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to prevent repetition of a condition adverse to quality. Specifically, the standby liquid control (SLC) system pump discharge pressure relief valves failed to satisfy American Society of Mechanical Engineers (ASME) acceptance criteria for 6 of 10 in-service tests (ISTs) conducted over the last 20 years. On two occasions, in 1989 and 2001, the as-found relief valve condition would have prevented the SLC system from being able to perform its intended design function to mitigate an Anticipated Transient Without Scram (ATWS) event, coincident with a main steam isolation valve (MSIV) closure.

The finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that because this finding represented an actual loss of a safety function of one train of the system, a Phase 2 SDP analysis was required. In the Phase 2 SDP assessment, the ATWS event worksheet was

reviewed as specified by the Perry Plant Risk-Informed Inspection Notebook. The dominant core damage sequence was an ATWS event, followed by a loss of the SLC system. The Phase 2 SDP assessment determined that this finding was of very low safety significance (Green) because 1 of 2 SLC pumps remained available.

As part of the licensee's immediate corrective actions, licensee personnel compared the as-left setpoints for the currently installed relief valves to a design setpoint value, and ensured that an adequate margin existed for the SLC relief valves to adequately perform their safety function.

This finding affected the cross-cutting area of Problem Identification and Resolution since licensee personnel did not adequately evaluate prior SLC relief valve as-found test failures.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS LPCS/RHR 'A' AIR-BINDING

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when the licensee's corrective actions following air-binding of the low-pressure core spray (LPCS)/RHR 'A' waterleg pump failed to identify that high point vent valves were omitted from venting procedures which had the potential to render the reactor core isolation cooling (RCIC) system inoperable, as discussed in prior operating experience information.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected high point vent was added to the licensee's venting procedures and the affected piping was verified to be properly vented and filled with water.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to perform an adequate extent of condition review for high point vent valves omitted from venting procedures.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS MOV STEM LUBRICATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel continued to use "Never-Seez" in safety-related motor-operated valve (MOV) applications although industry operating experience identified that "Never-Seez" was not an adequate MOV stem lubricant. As a result, over a 10-year period, licensee personnel deferred MOV stem lubricant replacement while multiple MOVs failed as-found test acceptance criteria and exhibited accelerated stem nut wear.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all affected safety-related valves were scheduled to have their stem lubrication changed by the end of RFO10 (May 2005).

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to resolve a known condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCESS DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to At-Risk-Change (ARC) procedures used for the modification of safety-related equipment without a completed and approved modification package.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all modification work associated with the ARC process was suspended until all cognizant personnel were provided training.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately address implementation of the ARC process until questioned by the team.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFE SHUTDOWN MOV DESIGN CHANGE ASSESSMENT

A finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), "Fire Protection," was NRC-identified when licensee personnel revised the fire protection program to use manual actions for replacing fuses for safe post-fire shutdown, but did not adequately assess the ability to perform the actions and did not verify or validate that adequate time was available to perform the actions.

The team determined that the finding was of more than minor significance since the finding was associated with the design control, equipment performance, and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The Phase 1 screening determined that a Phase 2 evaluation was required because the severity of the deficiency was determined to have a moderate degradation rating. The Phase 2 evaluation determined this finding was of very low safety significance, because no potentially challenging fire scenarios were developed.

As part of the licensee's immediate corrective actions, procedures were revised to add the affected fuses to the remote shutdown inventory and provide guidance regarding fuse replacement.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS DIVISION 2 EDG OIL LEAK CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to repair a long-standing Division 2 EDG lubricating oil cooler packing leak that was identified in November 2000, until May 2004 when the leak degraded and required emergent maintenance, rendering the EDG unavailable.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather

initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the leak was repaired and the Division 2 EDG was returned to service.

This finding affected the cross-cutting area of Problem Identification and Resolution because station personnel missed several opportunities to implement repairs.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SCAFFOLDING ERECTION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct an issue regarding the installation of scaffolding erected near safety-related equipment which did not meet the seismic bracing or clearance criteria of licensee procedures.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of equipment that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all scaffolding work was suspended and licensee personnel were required to obtain engineering approval of all scaffolding erections.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to follow both the scaffolding erection procedure and the temporary alterations procedure. This finding also affected the cross-cutting area of Problem Identification and Resolution because a condition adverse to quality regarding scaffolding controls was not corrected, despite numerous opportunities.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS EDG DESIGN CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately address a nonconforming condition in the design of the EDGs which made the EDGs vulnerable to damage in response to a loss of offsite power (LOOP) signal under certain scenarios.

The team determined that the finding was of more than minor significance since the finding was associated with the design control and equipment performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency confirmed not to result in a loss of function per Generic Letter 91-18; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, an engineering change to modify the EDG start circuitry was initiated.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a previously identified condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ECCW OILER CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately review available industry operating experience information and failed to identify degraded oil reservoirs that could adversely impact the operability of both Emergency Closed Cooling Water (ECCW) pumps.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, a walkdown of all potentially affected oil reservoirs was conducted and the reservoirs were verified to be able to properly provide makeup oil to all potentially affected pump bearings.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a known industry problem associated with improper reservoir installation.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ESW COUPLING ASSEMBLY CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct a condition adverse to quality identified in IR 05000440/2004008 regarding an NCV for the failure to properly inspect the re-assembly of ESW pump couplings. During this inspection, the team identified that licensee corrective actions to address this issue were inadequate and again failed to prescribe an appropriate inspection of the ESW pump couplings during re-assembly.

The finding was of more than minor significance since the finding could be reasonably viewed as a precursor to a significant event. Specifically, the licensee failed to perform required inspections for the installation of mechanical equipment and this failure contributed to a previous ESW pump failure that was determined to be a White finding. The team noted that for both ESW pump failures, the pumps had satisfied post-maintenance testing acceptance criteria. Further, the team noted that improvements in quality control could have detected the conditions that led to premature pump failure. Specifically, inspections could have detected the misalignment of the coupling that led to the first pump failure and improved quality control of parts could have prevented the second failure.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its Technical Specification (TS) allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, this issue was entered into the CAP.

This finding affected the cross-cutting area of Problem Identification and Resolution because the finding was associated with the licensee's failure to adequately address a significant condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS BREAKER TESTING CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to initiate a condition report to correct a condition adverse to quality following an error in the performance of a safety-related breaker overcurrent device calibration procedure step.

The team determined that the finding was of more than minor significance because the ineffective implementation of procedure steps by maintenance, if left uncorrected, could become a more significant safety concern since safety-related equipment may not be properly tested, reassembled, or maintained.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of

equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, procedure steps were re-performed, and the breaker was re-tested satisfactorily.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to generate a condition report to identify a condition adverse to quality which adversely impacted the licensee's ability to take effective corrective actions to address the issue.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCEDURE DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to ARC procedures used for the modification of safety-related equipment and modified a portion of the Division 1, 2, and 3 EDG exhaust ventilation system without declaring the ventilation system unavailable, as required.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the EDGs were declared inoperable until the modification was removed.

This finding affected the cross-cutting area of Human Performance since licensee personnel failed to adhere to the ARC procedure associated with the modification activities.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL DISCONNECT STATUS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when licensee personnel improperly performed a procedure step for verification of the position of RCIC system electrical disconnects.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical disconnects were properly positioned.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to procedure steps for aligning RCIC system electrical disconnects.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL JUMPER REMOVAL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when maintenance personnel incorrectly performed a procedure step which verified that electrical jumpers had been removed from an electrical cabinet and as a result, inadvertently left an electrical jumper installed in the cabinet.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical jumper that was inadvertently left in the affected electrical cabinet was removed.

This finding affected the cross-cutting area of Human Performance because licensee personnel performed an incorrect procedure step which verified that electrical jumpers had been removed from an electrical cabinet.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TESTING FOLLOWING "HOT SHORT" MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to verify that the isolation function of the remote shutdown panel (RSP) emergency transfer switch was operable after a modification re-wired the switch and placed a previously unused set of contacts in the isolation circuit.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The severity of the deficiency was determined to have a low degradation rating, because the reliability of the system function impacted by the finding was not significant. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, licensee personnel verified the adequacy of the design modification through the performance of a suitable test.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CONSIDER ENVIRONMENTAL IMPACT ON TRD MODIFICATION

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to adequately evaluate the effect of water intrusion on the insulation composite installed in the EDG exhaust enclosure during modification activities.

The team determined that the finding was of more than minor significance since the finding was associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding was a design deficiency or qualification deficiency confirmed not to result in a loss of safety function per Generic Letter 91-18. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, engineering personnel re-calculated expected concrete temperatures, taking into account wetted insulation, and verified that the EDG exhaust enclosure remained operable.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A MAINTENANCE PREVENTABLE FUNCTIONAL FAILURE

A finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(1), associated with the requirements for monitoring the effectiveness of maintenance, was identified when licensee personnel failed to establish appropriate goals and monitor the performance of the Division 2 EDG when the demonstration of effective control of performance of the EDG through appropriate preventive maintenance became invalid following a lube oil heat exchanger gasket failure.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's corrective actions, licensee personnel planned to discuss this issue with industry peers and determine whether the criteria used to categorize one of the EDG performance issues as a Maintenance Preventable Functional Failure was consistently understood and accepted.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SCAFFOLD CONSTRUCTION IN SAFETY-RELATED AREAS

Inspectors identified a finding of very low safety significance and a violation of Technical Specification 5.4 when, during a walkdown of the high pressure core spray (HPCS) system, inspectors observed that the scaffolding constructed in the Division 3 emergency diesel generator (EDG) and HPCS pump rooms failed to meet the seismic clearance requirements specified in licensee procedure GCI-0016, "Scaffolding Erection, Modification or Dismantling Guidelines," Revision 4. The inspectors observed that the procedural deviations were not evaluated by engineering to ensure that the safety-related HPCS system would not be adversely impacted during a seismic event. Additionally, inspectors noted that the scaffolding constructions in the Division 3 EDG and HPCS pump rooms were not tracked as a temporary alteration as required by Perry Administrative Procedure (PAP)-0204, "Housekeeping/Cleanliness Control Program," Revision 14. The primary cause of this finding was the failure to implement appropriate procedures for construction of scaffolding that could affect safety-related equipment. The primary cause was related to the cross-cutting area of Human Performance in that the licensee failed to follow both procedures, GCI-0016 and PAP-0204.

The finding was more than minor because, if left uncorrected, the failure to follow procedures for scaffold construction in safety-related areas would become a more significant safety concern. Additionally, the failure to follow procedures designed to protect safety-related equipment from scaffold construction adversely affects the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to be of very low safety significance because, assuming HPCS was rendered inoperable following a seismic event due to non-seismic scaffolding, Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic events and the operability of other mitigating systems. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures for performing maintenance on safety-related systems.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TS 5.4 REQUIRED PLANT FIRE PROCEDURES FOR DISCOVERY OF A FIRE

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on January 13, 2005, when a chemistry technician failed to promptly notify the control room upon discovery of an unexpected fire. The fire was located in the chemistry oil lab room of the control complex building within the protected area. The primary cause of this finding was related to the cross-cutting area of Human Performance. The chemistry technician failed to recognize that, in accordance with the Fire Protection Program, prompt notification to the control room is required when a fire is discovered.

The finding was more than minor because the failure to promptly report a fire prevents plant operators in the control room and other plant personnel from taking prompt and appropriate action pursuant to Fire Protection Program procedures. The resulting failure to implement the Fire Protection Program procedure on discovery of a fire degrades the facility's ability to meet the cornerstone objective of mitigating systems. Although not suitable for Significance Determination Process review, the finding was determined, by regional management, to be of very low safety significance in that (1) the finding did not affect the operability of the automatic fire detection and suppression systems in the affected fire zone, (2) the fire zone was outside of the vital area of the plant, and (3) the fire zone did not contain safe shutdown systems. Additionally,

there was no identified damage to safety-related equipment due to the fire, and the fire was observed to be confined to an oven.
Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE RESTORATION OF IRM 'A'

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed during a reactor start-up on January 30, 2005, when the intermediate-range monitor (IRM) 'A' instrument was discovered to be inoperable after reactor criticality had been achieved. Prior to start-up, it had been established that IRM 'C' was inoperable. The inoperability of both IRM 'A' and IRM 'C' resulted in operability of less than the minimum required number of IRM channels per trip system of the reactor protection system (RPS) for Mode 2 operation. The licensee entered the appropriate Technical Specification action statement and, as required by licensee procedure, commenced a normal reactor shutdown. The primary cause of this finding was the failure to implement appropriate procedures during maintenance activities on IRM 'A'. A cable connection between the intermediate-range detector and the intermediate-range instrument was left loosely attached at the conclusion of the maintenance activity. This rendered the IRM 'A' instrument inoperable. Additionally, the maintenance procedure lacked appropriate acceptance criteria for determining that the maintenance had been satisfactorily accomplished. The primary cause of this finding was related to the cross-cutting area of Human Performance in that technicians failed to adequately attach and verify connection of the cable in the IRM 'A' system.

The finding was more than minor because it resulted in a reactor start-up and operation in Mode 2 with less than the required number of IRM trip function channels per RPS trip system. This degraded the plant's ability to meet the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, the finding resulted in an unplanned reactor shutdown. The finding was of very low safety significance because RPS trip capability was maintained due to designed redundancy in the system logic. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures covering the intermediate-range nuclear instrument system.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION AFTER IDENTIFYING THAT ERRONEOUS OR UNEXPLAINABLE DATA WAS RECORDED DURING TS REQUIRED TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on January 18, 2005. Specifically, the licensee failed to take prompt corrective action after identifying on January 17, 2005, that erroneous or unexplainable data was recorded during Technical Specification required emergency closed cooling water (ECCW) 'B' pump and valve operability testing. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. After the inspectors brought the issue to the attention of control room personnel, the licensee initiated action to re-code the surveillance as "no credit" based on suspect data. Action was also initiated to reschedule the surveillance prior to its overdue date of February 4, 2005. The licensee's subsequent performance of the surveillance test was not properly performed which resulted in a missed Technical Specification 5.5.6 surveillance and an additional 10 CFR 50, Appendix B, Criterion XVI violation was identified by the inspectors. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements.

The inspectors concluded that the failure of a system engineer, an engineering supervisor, and a senior reactor operator to take action to correct an identified condition adverse to quality was more than minor in that it could reasonably be viewed as a precursor to a significant event and, with respect to the performance of Technical Specification required surveillance testing, was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that ECCW 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATE CREW PERFORMANCE DURING ECCW TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on February 7, 2005. Specifically, the licensee failed to identify and correct a condition adverse to quality following the inspectors' identification, on January 18, 2005, of an improperly performed Technical Specification required surveillance. As a result of the licensee's failure to properly evaluate the January 5, 2005, performance deficiency and take appropriate corrective action, the surveillance test was again performed improperly on February 1, 2005. In addition to causing unnecessary safety system unavailability during repetitive performances of the procedure, the inadequate performance of the test on February 1, 2005, resulted in a missed Technical Specification 5.5.6 surveillance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements. An apparent cause investigation was initiated to review surveillance performance issues.

The inspectors concluded that the failure of the licensee to adequately address performance issues with respect to a Technical Specification required surveillance procedure was more than minor in that it could reasonably be viewed as a precursor to a significant event and, in this case, resulted in a second improper performance and a missed Technical Specification surveillance. Additionally, the issue was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that emergency closed cooling water 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INADVERTENT ESTABLISHMENT OF FLOW PATH FROM SUPPRESSION POOL TO AUXILIARY BUILDING FLOOR DRAINS DURING RHR LLRT

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 27, 2005. Specifically, while performing a local leak rate test (LLRT) for the residual heat removal (RHR) 'A' suppression pool suction valve, 1E12-F004A, the valve was opened with the RHR 'A' system drained and vented. As a result, the suppression pool began draining through an open 8 inch drain valve and then overflowed to the auxiliary building floor. The draining was terminated within minutes when the valve was closed per the next step in the LLRT procedure.

The inspectors determined that inadvertent draining of the suppression pool to the auxiliary building floor was a performance deficiency warranting a significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. The inspectors determined that the finding: (1) did not increase the likelihood of a loss of reactor coolant system (RCS) inventory; (2) did not degrade the licensee's ability to terminate a leak path or add RCS inventory when needed; and (3) did not degrade the licensee's ability to recover decay heat removal if lost. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in a loss of suppression pool volume.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IMPLEMENTATION OF TS 3.4.10 FOR ALTERNATE HEAT DECAY REMOVAL

Inspectors identified a finding of very low safety significance for the licensee's failure to adequately implement Technical Specification 3.4.10 requirements for alternate decay heat removal methods as amended to the license during the Technical Specification improvement program to adopt Technical Specifications based on NUREG-1434 (Improved Standard Technical Specifications). The finding was considered to be a Non-Cited Violation of 10 CFR 50.36(c)(2)(I). The licensee has initiated action to install an alternate decay heat removal system.

The inspectors determined that the licensee's failure to adequately implement Technical Specification 3.4.10 was more than minor because it was directly associated with the mitigating system cornerstone objective of availability of a mitigating system. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that (1) the Mode 4 conditions were maintained by the inoperable, but running, RHR 'B' system and (2) the licensee maintained vacuum within the condenser to provide a method of decay heat removal had coolant temperature rose sufficiently to produce steam.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AND PERFORM TROUBLESHOOTING WITHOUT FULL BENEFIT OF A TROUBLESHOOTING PLAN

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to quarantine equipment. The inspectors determined the failure to quarantine the motor feed pump (MFP) breaker cubicle impaired the licensee's ability to identify the associated failure mechanism for the January 6, 2005 failure of the MFP breaker to close. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine the MFP breaker after the January 6, 2005 failure, if left uncorrected, could become a more significant safety concern. The finding affected the short term heat removal element of the Mitigating System Cornerstone and that the issue was not a design deficiency that resulted in a loss of function. The finding was of very low safety significance because the system was not a safety system and that the system was not a TS system. In addition, the finding did not represent an actual loss of safety function or equipment designed as risk-significant per 10 CFR 50.65 for greater than 24 hours, the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event, therefore the finding screened as Green. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G**Significance:** Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE GUIDANCE TO REFURBISH BREAKERS WITHIN VENDOR-SPECIFIED TIME FRAMES OR TO PROVIDE REASONABLE ALTERNATIVE PREVENTATIVE MAINTENANCE PRACTICES

The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation of Technical Specifications for inadequate safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to refurbish breakers within the vendor's specified time frames or provide reasonable alternative preventative maintenance practices to ensure that safety-related breakers remained operable.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specification Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The issue was entered into the licensee's corrective action program and is being evaluated under multiple condition reports (CR 05-0187, CR 05-00230, CR 05-00253, CR 05-00274, CR 05-00283, CR 05-00295, CR 05-00359, CR 05-00459).

Inspection Report# : [2005005\(pdf\)](#)**G****Significance:** Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE THE VENDOR'S GAP REQUIREMENTS INTO OPERATIONS MANUAL INSTRUCTIONS

The inspectors identified a finding having very low safety significance and associated Non-Cited Violation of Technical Specifications for inadequate procedures associated with safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to measure and monitor critical measurements identified by the vendor.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specifications Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The finding was entered into the licensee's corrective action program and is being evaluated under condition reports CR 05-00364 and CR 05-00095.

Inspection Report# : [2005005\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY A DEGRADED FIRE BARRIER

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 1 emergency diesel generator (EDG) room and the EDG building corridor. The finding was not considered a violation of regulatory requirements. The inspectors identified a fire door that was not latched and therefore was not fully capable of providing its required function of preventing fire spread and maintaining CO₂ suppression within the confines of the Division 1 EDG room. Once identified, the licensee immediately established a watch on the door and completed repairs later that day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it was associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because risk-significant equipment in the exposed area had at least 20 minutes of protection due to passive barriers.

Inspection Report# : [2004015\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

REINSTALLATION OF NONCONFORMING RELIEF VALVE

A finding of very low safety significance was identified by the inspectors on December 3 for a violation of 10 CFR 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components." Specifically, on October 25, while attempting to locate a relief valve which had failed as-found set pressure testing, the licensee determined that a nonconforming relief valve had been reinstalled in the Division 2 emergency diesel generator lube oil system during the divisional outage earlier that month. Once the improper installation was identified, the licensee initiated both an operability determination and a work package to replace the relief valve. The valve was replaced on October 26. While reviewing the

licensee's apparent cause of the reinstallation, the inspectors identified that the licensee failed to identify or address noncompliance with quality control requirements as specified in Nuclear Repair Manual NRM, Section 15, "Nonconforming Material or Items," Rev. 4. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it could reasonably be a precursor to a more significant event. This issue had very low safety significance because it did not involve a loss of safety function.

Inspection Report# : [2004015\(pdf\)](#)

Significance: N/A Sep 30, 2004

Identified By: NRC

Item Type: FIN Finding

REPETITIVE FAILURE TO IMPLEMENT ON-LINE RISK MANAGEMENT STRATEGY

The inspectors identified a finding of very low safety significance for the licensee's repetitive failure to identify and correct issues associated with the implementation of on-line risk management. On June 29, 2004, the inspectors identified that the licensee failed to establish the appropriate protected train postings during a planned Division 3 emergency diesel generator unavailability. This occurred on the licensee's first opportunity to implement a new internal procedure (revision dated June 22, 2004) for posting protected equipment, following the November 3, 2003, failure to post the motor feed pump as protected during a Division 1 outage. The licensee took immediate corrective action to correct the identified posting deficiency and commenced a complete walkdown of all required postings. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was greater than minor because if left uncorrected it could evolve into a more significant safety concern. This was previously demonstrated when the motor feed pump was left unprotected in November 2003. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance, in that in this instance, the repetitive failure to implement on-line risk management did not result in a substantive increase in on-line risk due to the short duration of the elevated risk configuration (less than three hours actual unavailability); no work was scheduled on the improperly posted equipment; no personnel were observed in the area; and it is not a likely "transit" area for personnel. The finding was not considered a violation of regulatory requirements because the licensee programs and procedures for the management of on-line risk are not 10 CFR Part 50, Appendix B programs or procedures.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: G Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSTRUMENTATION CALIBRATION

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XII. On July 7, 2004, the licensee failed to ensure that instrumentation used to measure diesel room temperature was calibrated with sufficient accuracy to ensure diesel generator starting air operability. After the inspectors discussed instrument accuracy with the licensee, the licensee implemented a reduced control temperature to account for instrument inaccuracy. The finding also affected the cross-cutting issue of Human Performance because the licensee's staff failed to recognize that instrument accuracy must be considered when establishing operating limits.

The inspectors determined that the licensee's failure to establish limits sufficient to ensure that limits in the operability evaluation were not exceeded was more than minor because it could reasonably be a precursor to a more significant event. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: G Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MOST SEVERE LIMITING FUEL OIL RETURN LINE FRETTING

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, the licensee identified fretting on emergency diesel generator (EDG) fuel oil return lines but did not measure the depth of the worst fret and erroneously declared operability based on a less severe fret. After the issue was brought to their attention on August 12, 2004, the licensee performed vibration measurements and performed calculations on the pipe to determine available margin. This analysis concluded that minimal margin existed and that the EDG could no longer be considered operable. The licensee declared the EDG inoperable, replaced the fretted section of pipe, and performed a successful post-maintenance test of the EDG. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it directly affected the mitigating system cornerstone objective of equipment reliability. The inspectors concluded that without repair, the pipe fret would have progressed to the point of fuel leakage and the diesel would not have been able to fulfill its mission. The inspectors concluded that there was no loss of safety function; therefore, the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: G Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY MISALIGNED AUXILIARY SWITCH

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to identify a condition adverse to quality. Specifically, non-licensed operators failed to identify that the auxiliary switch in the control complex chilled water system 'A' chiller breaker cubicle was misaligned. After the condition was brought to the attention of the licensee on August 13, 2004, immediate corrective action was taken to align the switch later that same day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be a precursor to a more significant event. In fact, the issue was similar to the failure to properly align the high pressure core spray system pump breaker cell switch which resulted in the failure of the pump to start in October 2002. The inspectors determined the finding did not involve the loss of safety function; and therefore, concluded that the finding was of very low safety significance.

Inspection Report# : [2004013\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO SPECIFY ADEQUATE TESTING PROTOCOL AND ACCEPTANCE CRITERIA

The inspectors identified a finding of very low safety significance for a violation of 10 CFR Part 50, Appendix B, Criterion XI. The inspectors determined that the combination of licensee testing protocol and established acceptance criteria was inadequate to demonstrate check valve position as required by Technical Specification 5.5.6 and American Society of Mechanical Engineers Code for reactor core isolation cooling condensate storage tank suction check valve 1E51-F011. Specifically, on July 12, 2004, the surveillance procedure failed to establish steady-state flow conditions at the outlet of the test piping prior to data collection necessary for the verification of check valve position. Additionally, operators used non-calibrated timing and liquid collection devices while obtaining data. The net effect of the procedural deficiencies was the collection of meaningless data. The licensee corrected the deficiency by reperforming the surveillance with appropriate controls and instrumentation prior to declaring the check valve operable and initiated corrective action to obtain and implement the use of accurate flow measuring devices during future performance of the surveillance. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was greater than minor because it was directly associated with the mitigating systems cornerstone objective of mitigating system availability and operability. The inspectors concluded that with the observed test methodology and acceptance criteria, an operator could credibly conclude the check valve was shut when in fact it was open. The finding was of very low safety significance because the operator performing the July 12, 2004 surveillance determined the valve to have failed the surveillance test despite inconclusive test data. As such, reactor core isolation cooling suction remained aligned to the suppression pool and system operability was maintained.

Inspection Report# : [2004013\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

G

Significance: Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO CONTROL LOW PRESSURE TEST GAGES

A finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment" was self-revealed on May 6, 2005. Specifically, on April 30, 2005, with the plant in a cold shutdown condition, the licensee installed temporary test gages to the tailpiece of residual heat removal (RHR) test connection isolation valve E12-F059B and to the test connection on the low pressure side of leak detection system (LDS) differential pressure detector E31-N077B associated with the reactor water clean-up (RWCU) return to the feedwater system flow instrument. The gages were installed to support operability testing of RWCU check valve G33-F052B. Contrary to the Perry Problem Solving Plan associated with work order (WO) 200147914, operators failed to remove the test gages following testing and prior to plant start-up. On May 6, 2005, a non-licensed operator in the RHR 'A' room noted that the temporary gage connected downstream of E12-F059B was still installed. After an extent of condition review was performed by the licensee, a second gage installed in the RWCU/LDS was identified. The primary cause of the finding was related to the cross-cutting issue of Human Performance in that the gages were not removed per the WO procedure.

The inspectors determined that leaving low pressure (300 psig) rated test equipment installed in a system (RWCU) that experiences normal operating pressure conditions of approximately 1000 psi was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding only resulted in a degradation in the radiological barrier function of the Auxiliary Building and the finding did not result in an actual open pathway in the physical integrity of the reactor containment or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

PERMANENT STRUCTURES IN CONTACT WITH CONTAINMENT WALL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to identify and correct numerous permanent structures (deck grating) that did not meet seismic separation distance requirements to the inside containment wall.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions all identified deficiencies were corrected and required seismic separation distances were restored.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS RWCU PCIV CLOSURE CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to promptly identify, and therefore correct in a timely manner, the condition of the reactor water cleanup (RWCU) primary containment isolation valves (PCIVs) inability to close when being secured from a normal RWCU valve lineup.

The team determined that the finding was of more than minor significance since the finding was associated with the reactor coolant system (RCS) equipment and barrier performance attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

To address this issue, licensee personnel initiated actions to improve the performance margin of the affected valves and review calculations to clarify the design and licensing basis.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct the previously identified condition of the RWCU PCIVs inability to close under all operating conditions.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFETY EVALUATION FOR THE NOBLECHEMTM PROCESS

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to perform an adequate safety evaluation review as required by 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. The licensee initiated a NobleChemTM process, which involved deposition of noble metals on primary plant components, but failed to provide a basis for the determination that this change was acceptable without a license amendment. Specifically, the safety evaluation failed to address the impact of the NobleChemTM process on the fuel peak cladding temperature in a post loss-of-coolant accident environment due to catalytic action involving two exothermic reactions.

Because the Significance Determination Process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, this issue was dispositioned using the traditional enforcement process in accordance with Section IV of the NRC Enforcement Policy. However, the results of the violation, that is, the failure to fully evaluate the NobleChemTM process, were assessed using the Significance Determination Process.

The inspectors considered this issue of more than minor significance, because the finding could have become a more significant safety concern in that, the licensee failed to demonstrate through a documented analysis that the integrity of fuel cladding was not affected by the NobleChemTM process. Because a subsequent vendor analysis adequately demonstrated the integrity of fuel cladding, it was determined that the licensee's failure to provide an adequate basis for the safety evaluation 01-0007 was an issue of very low safety significance and the violation of 10 CFR 50.59 was classified as a Severity Level IV Non-Cited Violation, consistent with the NRC Enforcement Policy.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

DROPPED JET PUMP PLUG

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 28, 2005. Specifically, while removing a jet pump plug assembly from the reactor vessel, the plug broke loose from the handling pole and roped L-hook while being lifted over the refuel floor auxiliary platform. As a result, the plug dropped approximately 60 feet, primarily through water, and landed on top of several fuel bundles in the reactor core.

The inspectors determined that dropping a jet pump plug assembly, weighing approximately 25 pounds, onto the top of the reactor core was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the dropped plug was subsequently determined to not have caused damage to the fuel. The finding affected the cross-cutting issue of Human Performance because a personnel

error caused the plug to be dropped.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INADVERTENT CONTROL ROD WITHDRAWAL

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on March 10, 2005. Specifically, while attempting to verify the position of control rod 18-55, a senior reactor operator (SRO) inadvertently withdrew control rod 58-35 from position 00 to position 02. Upon recognition of the condition, the SRO took the Technical Specification required actions and immediately reinserted the control rod.

The inspectors determined that a personnel error that resulted in the inadvertent withdrawal of a control rod was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the rod movement had minimal impact of reactivity as evidenced by the lack of response by source range instrumentation and subsequent licensee shutdown margin assessment. Further, the error was immediately recognized and the control rod was inserted to position 00 in less than 15 seconds. Additionally, the SRO's use of the withdraw pushbutton self-limited the movement to one notch. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in an inadvertent step withdrawal of a control rod.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED SCAFFOLDING

A finding of very low safety significance was self-revealed on October 25, 2004, for a violation of Technical Specification 5.4, "Procedures." On October 25, after operations initiated the clearance (tagout) for the maintenance activities, maintenance personnel noticed that the linear converter shaft for the damper was pressing down into the scaffold that was built directly underneath the component. On October 18 the licensee installed a scaffold underneath the annulus exhaust gas treatment system (AEGTS) exhaust damper 'B' which interfered with the movement of the component's linear converter shaft and prohibited the full opening of the damper. The AEGTS 'B' train was thus rendered inoperable due to the interference of the scaffold onto the damper. Once identified, the licensee declared the system inoperable, took prompt action to reposition the scaffold, and performed testing of the damper to assess potential damage. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it was associated with the reactor safety cornerstone attribute of barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because, per Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the finding only represented a degradation of the radiological barrier function of the AEGTS.

Inspection Report# : [2004015\(pdf\)](#)

G

Significance: Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER USE OF FIX-IT-NOW PROCESS TO ADJUST VALVE PACKING

A finding of very low safety significance was self-revealed on November 17 for a violation of Technical Specification 5.4 "Procedures." Specifically, contrary to the requirements of NOP-WM-9001 "FIN/Toolpouch Maintenance Process" the Fix-It-Now process was used to adjust the packing on the demineralized water system containment isolation valve P22-F0010. As a consequence, the licensee used an incorrect procedure to adjust the packing, failed to perform post-maintenance testing on the valve and failed to stroke the valve to consolidate the packing. Once identified, the licensee took prompt action to perform valve maintenance and subsequent testing for satisfactory valve performance. The primary cause was related to the cross-cutting area of Human Performance.

The finding was more than minor because it could reasonably be a precursor to a more significant event. Specifically, key steps to ensure proper valve operation were omitted from the work process. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barriers Cornerstone. The inspectors determined the finding did not involve an actual open pathway in the physical integrity of the reactor containment and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2004015\(pdf\)](#)

Emergency Preparedness

Significance: SL-IV May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE USE OF HP TECHNICIAN AS INTERIM OSCC

A finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.54(q) was NRC-identified when licensee personnel failed to obtain prior NRC approval for a change to the Perry Emergency Plan concerning emergency response organization (ERO) staffing and response timeliness. Because the issue affected the NRC's ability to perform its regulatory function, it was processed through the traditional enforcement process and evaluated using the SDP.

Using IMC 0612, Appendix B, "Issue Dispositioning Screening," the inspectors determined that the finding was more than minor because it was associated with the ERO readiness and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

The finding was considered to be of only very low safety significance since the period of vulnerability to the issue was short.

As part of the licensee's corrective actions, the issue was entered in the licensee's corrective action program for resolution as CR 05-03271.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: G May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY IMPACT OF SECURITY PLAN CHANGE ON EMERGENCY PLAN

A finding of very low safety significance and an associated NCV of 10 CFR 50.47(b)(4) was NRC-identified when a change was made that adversely impacted Emergency Action Level (EAL) implementation. Specifically, a Security Plan revision implemented on November 8, 2005, eliminated terms from the Security Plan and Security Event Checklists, which adversely affected EAL classifications.

The team determined that the finding was of more than minor significance since the finding was associated with the ERO performance and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

Using IMC 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," and Sheet 1, "Emergency Preparedness Significance Determination Process - Failure to Comply," the team determined that this finding involved a planning standard problem, involved a risk-significant planning standard (RSPS) problem, did not result in a planning standard function failure, and did not result in a RSPS degraded function. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the licensee issued Security Operations Directive 05-0005 to require security personnel to use appropriate terms to communicate event information to the shift manager.

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: W Nov 19, 2004

Identified By: NRC

Item Type: VIO Violation

Failure to Perform Emergency Dose Assessment During an Alert Within 15 minutes Required by EAL HA1

The inspectors identified an apparent violation having preliminarily low-to-moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an Alert level event declared on July 20, 2004. During this event, the licensee staff failed to perform a Computer Aided Dose Assessment Program (CADAP) run within 15 minutes of the Alert declaration as required by the licensee's Emergency Plan.

The finding was determined to be greater than minor because it affected the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the issue was more than minor because it represented a failure to implement a regulatory requirement during a real event which could have prevented the correct emergency classification. The finding was preliminarily determined to be of low to moderate safety significance because the licensee failed to implement a risk significant planning standard (10 CFR 50.47(b)(4)) during an actual Alert emergency.

After considering the information developed during the inspection and the additional information provided in your January 26, 2005, letter, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2004016\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Inspection Report# : [2005007\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO ADEQUATELY ADDRESS ELEVATED DOSE RATE CONCERNS

A finding of very low safety significance was NRC-identified when licensee personnel failed to implement corrective actions to prevent recurrence of a significant condition adverse to quality in a timely manner. Specifically, corrective actions to investigate the organizational causes for elevated dose rates in Refueling Outage 9 (RFO9) failed to identify corrective actions to prevent recurrence. No violation of regulatory requirements occurred.

The team determined that the finding was of more than minor significance because, if left uncorrected, the finding would become a more significant safety concern. Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no safety-related equipment was rendered inoperable as a result of the performance deficiency.

This finding affected the cross-cutting area of Problem Identification and Resolution because the licensee failed to implement a corrective action to address a root cause of a condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : August 24, 2005

Perry 1 3Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

AUTOMATIC ESF ACTUATION DUE TO UNTIMELY CORRECTIVE ACTIONS AND INEFFECTIVE INTERIM ACTIONS

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on August 12, 2005, when licensee personnel failed to promptly correct a condition adverse to quality. Specifically, on July 2, 2005, licensee personnel identified that the reactor water cleanup system valve nest room had elevated temperatures. Shortly thereafter, the licensee's problem solving team identified that a leak detection thermocouple was not providing an indication representative of actual room temperature due to its location. The improper placement of the thermocouple was not promptly corrected. The licensee failed to resolve the issue in a timely manner in that a reactor water cleanup system automatic isolation, an engineered safety feature actuation, occurred on August 12, 2005. Additionally, interim licensee actions to reduce room temperature, such as through securing a reactor water cleanup pump, had an adverse impact on plant performance in that the licensee concluded that the system manipulations induced a reactor water cleanup system leak on a non-regenerative heat exchanger vessel flange. The reactor water cleanup system was placed back in service on August 12, 2005, the thermocouple was relocated on August 14, 2005, and the heat exchanger vessel flange leak was stopped on September 6, 2005.

The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss-of-coolant-accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not promptly corrected.

Inspection Report# : [2005009\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: FIN Finding

UNTIMELY HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance for the licensee's failure to sufficiently coordinate and adequately prepare for the onset of hot weather prior to May 1, 2005. Specifically, the licensee failed to complete work associated with critical components, in accordance with established expectations that specified completion prior to April 30, 2005. As a result, critical tasks had not been completed prior to the onset of near record warm weather beginning June 5, 2005.

The inspectors determined that the issue was more than minor because, if left uncorrected, the finding would become a more significant safety concern. The finding was also associated with the reactor safety initiating events cornerstone and affected the cornerstone's objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because no safety-related functions or mitigating systems were rendered inoperable and no plant transient was initiated. No violation of NRC requirements occurred.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY THE EFFECT OF DEENERGIZING BUS K-1-D ON DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of 10 CFR 50.65(a)(4) was self-revealed during preparation for an electrical distribution panel F1F14 outage on April 4, 2005. The reactor was shutdown at the time of the event. Specifically, the licensee failed to identify the impact of planned breaker manipulations on the fuel pool cooling and cleanup (FPCC) system. Per an Operations Evolution Order, the K-1-D electrical bus was de-energized which de-energized the fuel pool filter demineralizer (FPFD) control panel, H51-P173. As a result, the demineralizer flow control valves shut. The flow control valve repositioned and reduced FPCC flow to the reactor cavity pool from 720 gpm to 520 gpm and flow to the spent fuel pool from 700 gpm to 600 gpm. At the time of the event, FPCC was the primary method of decay heat removal. Numerous alarms were received in the control room. Control room personnel assessed the transient and within 30 minutes opened the FPCC fuel pool filter demineralizer bypass valve to restore proper flow to the reactor pool and spent fuel pool. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to properly assess the impact of a planned

maintenance activity on a key shutdown safety function.

The finding was more than minor because the failure to identify the impact of the planned maintenance activity adversely affected a protected train of equipment providing the key shutdown safety function of decay heat removal. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it adversely affected the FPCC decay heat removal function. The finding was of very low safety significance because FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of 10 CFR 50.65(a)(4) which required the licensee to assess and manage the increase in risk that may result from proposed maintenance activities.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed during preparation for Division 2 loss of off-site power (LOOP) testing on April 5, 2005. The reactor was shutdown at the time of the event. Valves in the cooling water supply path to the FPCC system heat exchangers were unintentionally isolated. This resulted in loss of decay heat removal from the reactor pool and spent fuel pool for approximately two hours. Operators subsequently discovered the valves were out of position, restored the system to the correct lineup, and restored decay heat removal. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to implement procedures as written. Specifically, the licensee personnel performing the test preparations performed a procedure step out of sequence which resulted in the loss of cooling water to the FPCC heat exchangers.

The finding was more than minor because the failure to follow procedures resulted in a loss of cooling for the reactor pool and spent fuel pool for approximately two hours. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control, and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it resulted in loss of FPCC decay heat removal function. The finding was of very low safety significance because the FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of TS 5.4 which required the implementation of written surveillance test procedures.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES AFFECTING SAFETY-RELATED DIVISION 3 BREAKERS

A finding of very low safety significance and a violation of TS 5.4, "Procedures," was self-revealed on April 21, 2005. While the plant was shutdown for a refuel outage, the licensee conducted LOOP response testing of the Division 3 high pressure core spray (HPCS) emergency diesel generator (EDG). The procedure required the installation of a jumper between terminal points in the HPCS preferred source breaker cubicle, EH1303. Contrary to procedure, technicians installed the jumper in the alternate preferred source breaker cubicle EH1302. The error was identified when control room operators attempted to close breaker EH1302 and it did not close as expected. The jumper was subsequently removed from the EH1302 cubicle without consequence. The primary cause of this finding was related to the cross-cutting issue of Human Performance. Specifically, licensee technicians failed to perform the procedure as written and failed to use independent verification and, as a result, installed the jumper in the wrong cubicle.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Additionally, if left uncorrected, the failure to follow procedures affecting safety-related equipment would become a more significant safety concern. The inspectors determined that the finding was of very low safety significance because the finding did not involve a loss of safety function.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS CONTROL ROD MOVEMENT CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to implement adequate corrective actions for root causes associated with a significant condition adverse to quality. Specifically, the licensee identified "management failures in identifying problems with reactivity control systems" as a root cause for unexpected control rod movement, however licensee corrective actions failed to address this issue.

The team determined that the finding was of more than minor significance since it could be reasonably viewed as a precursor to a more significant event. Specifically, the corrective action intended to address management's oversight of the reactivity control systems did not address the licensee's identified cause and did not cover all activities that involve significant rod movement such as short forced outages and control rod pattern changes.

Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no initiating event occurred.

As part of the licensee's corrective actions, Condition Report 03-05995 was previously generated to address organizational issues through the use of the Plant Health Committee, clarification of the roles and responsibilities of managers and directors, and to develop the Perry PII. Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS TRAINING DEVIATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct in a timely manner a condition adverse to quality regarding operators' failure to use required human performance error reduction tools during stressful situations. The finding was of more than minor significance because the finding could reasonably be viewed as a precursor to a significant event since the continued deviation from established procedures and training during stressful times had the potential to result in an initiating event or result in more significant consequence following an initiating event.

Using IMC 0609, "Significance Determination Process," the team determined that this finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, human performance tools were implemented which addressed the importance of procedure adherence during events and other stressful situations.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to take corrective actions to address a condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INSTRUMENTATION AND CONTROL TECHNICIAN ERROR RESULTS IN INADVERTENT ESF ACTUATION

A finding of very low safety significance and a violation of Technical Specification 5.4, "Procedures" was self-revealed on February 3, 2005. Specifically, while calibrating the containment/drywell purge exhaust radiation monitor 1D17-K660, an error by an instrumentation and control (I&C) technician resulted in an engineered safety feature (ESF) actuation. Specifically, backup hydrogen purge system containment isolation valves M51-F090 and M51-F110 received an isolation signal. The valves functioned as designed and isolated the backup drywell hydrogen purge system. Control room personnel realigned the backup drywell hydrogen purge system in accordance with the system operating instruction. Additional I&C personnel reset the trip signal and completed the calibration procedure successfully. The primary cause of this finding was related to the cross-cutting issue of Human Performance because a personnel error was the primary cause of the event.

The inspectors determined that an inadvertent ESF actuation due to improper performance of an I&C procedure was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss of coolant accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE INDUSTRY OPERATING EXPERIENCE INTO PREVENTATIVE MAINTENANCE ACTIVITIES

A self-revealed finding of very low significance and a Non-Cited Violation of 10 CFR 50.65(a)(3) was identified. The finding involved the transient initiated as a result of a trip of "A" reactor recirculation pump low frequency motor generator and subsequent manual scram of the reactor. The Non-Cited Violation was associated with a failure to incorporate industry operating experience into preventive maintenance activities that would have prevented the failure of the "A" reactor recirculation pump. The primary cause of this violation was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because the event caused an actual upset in plant stability and operation resulting in a plant transient, thereby directly affecting the objective for the Initiating Events Cornerstone. Additionally, the trip affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other

mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. Proposed and completed corrective actions included a formal root cause analysis, replacement of the defective voltage regulator, and establishment of a process to review post-transient performance data.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The finding involved the licensee's failure to quarantine equipment after both reactor recirculation pumps experienced an unplanned downshift from fast to slow speed on December 23, 2004. The inspectors determined that the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism for the simultaneous downshifting of both reactor recirculation pumps. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism, and as a result, a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affected the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO EVALUATE AND DOCUMENT THE REMOVAL OF A MODE RESTRAINT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to properly assess and document the assessment for the removal of restart restraints prior to resuming reactor operation subsequent to the December 23, 2004, scram, and that the failure to appropriately close and document the basis for resolving a mode restraint prior to startup impaired the licensee's ability to identify the associated failure mechanism for the December 23 recirculation pump downshift event. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affects the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

Mitigating Systems

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT BORON LEAKAGE FROM THE STANDBY LIQUID CONTROL STORAGE TANK HEATER FLANGE

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality in a timely manner. Specifically, licensee personnel identified and documented on seven occasions from June 2002 through February 2005, boron accumulation on the standby liquid control system storage tank heater flange. In each instance the issue was identified as a "condition adverse to quality." The inspectors identified additional documentation of leakage and boron accumulation in the flange area dating back to April 28, 1997. As of July 29, 2005, the condition adverse to quality had not been corrected. The licensee entered the "untimely resolution of a condition adverse to quality" into their corrective action program and confirmed for the inspectors that the issue was included in the next planned refueling outage for resolution.

The finding was more than minor because, if left uncorrected, the finding would become a more significant safety concern. Specifically, the failure to repair the degraded flange connection allowed a condition to exist that could lead to increased leakage or premature failure of the connection. Further, as noted on multiple licensee condition reports, the leakage had on occasion migrated to other levels of containment which if left uncorrected could result in other adverse consequences. The inspectors determined that the finding (1) did not involve a loss of safety function and (2) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors therefore concluded that the finding was of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not corrected in a timely manner.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO EVALUATE INTERFERENCE WITH THE DESIGN RATTLE SPACE BETWEEN SAFETY CLASS BUILDINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to control deviations from design standards. On July 22, 2005, while performing a fire protection inspection in the intermediate building, the inspectors noted that a large storage cage (approximately 900 square feet in area and 10 feet high) was constructed in such a way that it interfered with the design rattle space between the containment shield building and the intermediate building column supports at several locations. The steel used to brace the cage directly communicated the containment shield building to the columns that supported the intermediate building. The inspectors reported the observation to the licensee and the licensee corrected the condition the same day. The primary cause of this finding was the failure to properly control deviations from design standards. The design seismic analysis of the building structures credited the rattle space in lieu of further analysis of the interaction between building structures; therefore, the interference of this space was not consistent with the design basis.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences in that it placed safety-related building structures in an unanalyzed condition. The inspectors determined that the safety functions of the buildings were maintained and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE SATISFACTORY MAINTENANCE ON THE RHR CONTAINMENT SPRAY ISOLATION VALVE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed when residual heat removal containment spray isolation valve 1E12F028B failed to indicate open in the control room as expected during quarterly surveillance testing on June 25, 2005 due to inadequate maintenance. Operators declared the valve inoperable and isolated the associated penetration flow path for the valve in accordance with Technical Specification 3.6.1.3. This resulted in the unavailability of residual heat removal 'B' low pressure core injection and containment spray modes of operation. Subsequent visual inspection and electrical checks by licensee technicians revealed inadequate electrical connections in the electrical panel associated with the valve. The connections were repaired and the availability of residual heat removal 'B' low pressure core injection and containment spray was restored. The primary cause of this finding was the failure to promptly identify and correct conditions adverse to quality during maintenance associated with the valve actuator motor replacement that was performed in March 2005.

The finding was more than minor because it was associated with the reactor safety mitigating systems cornerstone attribute of equipment performance, and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable events. Specifically, the failure to identify the inadequate electrical connections following maintenance in the panel subsequently resulted in a failed control room indication on June 25, 2005, which caused operators to isolate the associated penetration flow path for the valve. This resulted in the unavailability of the residual heat removal 'B' low pressure core injection and containment spray modes of operation for about nine hours. The inspectors determined that the finding was of very low safety significance because the equipment safety function was not lost for greater than the Technical Specification allowed outage time. The primary cause of this finding was associated with the cross-cutting area of Problem Identification and Resolution, subcategory identification, in that improperly fastened electrical connections affecting a safety-related valve were not promptly identified.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE PROPER REASSEMBLY OF DIVISION 1 ESW PUMP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on March 2,

2005, during disassembly of the Division 1 emergency service water pump. Specifically, the licensee failed to provide adequate guidance in General Maintenance Instruction 0039, "Disassembly/Assembly of the Emergency Service Water Pumps," Revision 8, to ensure that the lineshaft sleeve spiro pins were adequately staked during pump assembly in May 2004. Due to the improper assembly, the pump's lineshaft sleeve spiro pins were found, in March 2005, to be extruded and sheared. Fortunately, the pins galled to the shaft and the lineshaft sleeve remained in place. As a result, no actual loss of safety function occurred. The licensee's corrective actions included a procedure revision and subsequent pump repair.

The finding was more than minor because, if left uncorrected, the failure to implement appropriate procedures for safety-related pump maintenance activities could reasonably be viewed as a precursor for a more significant event as evidenced by two previous Division I emergency service water pump failures in September 2003 and May 2004. The inspectors determined that the finding was of very low safety significance because there was no loss of safety function. The finding affected the cross-cutting area of Human Performance, subcategory organization, because licensee personnel failed to establish appropriate procedures.

Inspection Report# : [2005009\(pdf\)](#)

Significance: Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATELY THREADED BOLTS ON RHR 'B'/'C' WATERLEG PUMP

The inspectors identified a finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify the inadequate thread engagement of two bolts on the residual heat removal (RHR) 'B'/'C' waterleg pump discharge flange. Inspectors identified the non-conforming condition during a walkdown of the RHR 'C' system while RHR 'C' was designated as the primary water inventory source for the shutdown reactor. Inspectors promptly reported the condition to the licensee and the licensee entered it into the corrective action program. The licensee performed corrective maintenance to fix the inadequate thread engagement on May 19, 2005. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. The failure to identify and correct inadequate thread engagement on bolted connections could allow premature failure and leakage from the connection. Additionally, the finding was associated with the reactor safety mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to identify and correct non-conforming conditions on safety-related equipment degrades the reliability of the system to perform its safety function. The inspectors determined that the finding did not involve the loss of safety function and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005006\(pdf\)](#)

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE DESIGN REVIEW FOR TESTABLE RUPTURE DISK MODIFICATION

A finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on February 17, 2005, when the Division 2 EDG testable rupture disc (TRD) required excess force to lift during surveillance testing. A newly designed Division 2 TRD had been installed in October 2004 in an effort to address long-standing equipment performance issues. A similar design was installed on the Division 1 EDG in November 2004 and on the Division 3 EDG in April 2004. After the test failure on February 17, 2005, subsequent licensee inspection identified that the disc was warped. Due to potential common cause issues, the licensee declared all three EDGs inoperable and entered TS Limiting Condition for Operation (LCO) 3.0.3. The licensee unlatched all EDG TRDs to restore operability. The licensee's design review for the TRD did not adequately consider the potential for and the effect of deformation of the TRD disc due to heat. Additionally, the licensee's testing of the design modification was determined to be inadequate. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to perform an adequate design review.

The finding was more than minor because it affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of the EDGs in response to initiating events. Specifically, if the TRD failed to lift at the appropriate pressure, excessive back-pressure would adversely affect fuel consumption rates. Further, if the TRD failed to open with the normal EDG exhaust blocked, conditions could be established which would result in stalling of the EDG. The finding was determined to be of very low safety significance because Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic and tornado events.

Inspection Report# : [2005006\(pdf\)](#)

Significance: SL-IV Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

UNREPORTED SAFETY-SYSTEM UNAVAILABILITY FOR RHR

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to report residual heat removal (RHR) train 'B' unavailability from May 29, 2004, through June 3, 2004, while the emergency service water train 'B' was inoperable for pump repairs. The second quarter 2004 data reported to the NRC included RHR 'A' unavailability following failure of the ESW 'A' pump on May 21, 2004, but

did not include the subsequent RHR 'B' unavailability. Prior to removing the ESW 'B' pump from service, the licensee developed a reactor pressure vessel feed and bleed method which they subsequently credited as an alternate decay heat removal system when calculating RHR system unavailability. The inspectors, however, reviewed the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, and could not conclude that the licensee's method met the "NRC approved method of decay heat removal." Due to the inspectors' concerns, the licensee submitted a "Frequently Asked Question." On May 19, 2005, the NRC determined that "NRC approval means a specific method or methods described in the technical specifications." As a result, the licensee recalculated and resubmitted RHR system unavailability on June 17, 2005. Had the performance indicator (PI) data been properly reported in the second quarter of 2004, the PI color would have been White. The failure to properly report the PI was considered a Severity Level IV Non-Cited Violation of 10 CFR 50.9.

Inspection Report# : [2005006\(pdf\)](#)

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SLC RELIEF VALVE TEST FAILURES

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to prevent repetition of a condition adverse to quality. Specifically, the standby liquid control (SLC) system pump discharge pressure relief valves failed to satisfy American Society of Mechanical Engineers (ASME) acceptance criteria for 6 of 10 in-service tests (ISTs) conducted over the last 20 years. On two occasions, in 1989 and 2001, the as-found relief valve condition would have prevented the SLC system from being able to perform its intended design function to mitigate an Anticipated Transient Without Scram (ATWS) event, coincident with a main steam isolation valve (MSIV) closure.

The finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that because this finding represented an actual loss of a safety function of one train of the system, a Phase 2 SDP analysis was required. In the Phase 2 SDP assessment, the ATWS event worksheet was reviewed as specified by the Perry Plant Risk-Informed Inspection Notebook. The dominant core damage sequence was an ATWS event, followed by a loss of the SLC system. The Phase 2 SDP assessment determined that this finding was of very low safety significance (Green) because 1 of 2 SLC pumps remained available.

As part of the licensee's immediate corrective actions, licensee personnel compared the as-left setpoints for the currently installed relief valves to a design setpoint value, and ensured that an adequate margin existed for the SLC relief valves to adequately perform their safety function.

This finding affected the cross-cutting area of Problem Identification and Resolution since licensee personnel did not adequately evaluate prior SLC relief valve as-found test failures.

Inspection Report# : [2005003\(pdf\)](#)

Significance: May 26, 2005

Identified By: Self-Revealing

Item Type: FIN Finding

DRYWELL SUPPLY FAN TRIPS DUE TO INADEQUATE MAINTENANCE

A finding of very low safety significance was self-revealed when repetitive drywell supply fan failures occurred due to inadequate maintenance and inadequate corrective actions to address a previous failure due to an identical root cause. No violation of regulatory requirements occurred.

The finding was of more than minor significance since the finding could reasonably be viewed as a precursor to a more significant event since identically designed fans existed in other risk-significant plant systems and a failure of those fans, under similar circumstances, could have also occurred.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected fan was repaired and an extent of condition review was performed.

This finding affected the cross-cutting area of Problem Identification and Resolution since the finding involved inadequate corrective actions to address a previous failure.

Inspection Report# : [2005003\(pdf\)](#)

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS LPCS/RHR 'A' AIR-BINDING

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when the licensee's corrective actions following air-binding of the low-pressure core spray (LPCS)/RHR 'A' waterleg pump failed to identify that high point vent valves were omitted from venting procedures which had the potential to render the reactor core isolation cooling (RCIC) system inoperable, as discussed in prior operating experience information.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected high point vent was added to the licensee's venting procedures and the affected piping was verified to be properly vented and filled with water.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to perform an adequate extent of condition review for high point vent valves omitted from venting procedures.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS MOV STEM LUBRICATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel continued to use "Never-Seez" in safety-related motor-operated valve (MOV) applications although industry operating experience identified that "Never-Seez" was not an adequate MOV stem lubricant. As a result, over a 10-year period, licensee personnel deferred MOV stem lubricant replacement while multiple MOVs failed as-found test acceptance criteria and exhibited accelerated stem nut wear.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all affected safety-related valves were scheduled to have their stem lubrication changed by the end of RFO10 (May 2005).

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to resolve a known condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCESS DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to At-Risk-Change (ARC) procedures used for the modification of safety-related equipment without a completed and approved modification package.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all modification work associated with the ARC process was suspended until all cognizant personnel were provided training.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately address implementation of the ARC process until questioned by the team.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS DIVISION 2 EDG OIL LEAK CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to repair a long-standing Division 2 EDG lubricating oil cooler packing leak that was identified in November 2000, until May 2004 when the leak degraded and required emergent maintenance, rendering the EDG unavailable.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the leak was repaired and the Division 2 EDG was returned to service.

This finding affected the cross-cutting area of Problem Identification and Resolution because station personnel missed several opportunities to implement repairs.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SCAFFOLDING ERECTION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct an issue regarding the installation of scaffolding erected near safety-related equipment which did not meet the seismic bracing or clearance criteria of licensee procedures.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of equipment that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all scaffolding work was suspended and licensee personnel were required to obtain engineering approval of all scaffolding erections.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to follow both the scaffolding erection procedure and the temporary alterations procedure. This finding also affected the cross-cutting area of Problem Identification and Resolution because a condition adverse to quality regarding scaffolding controls was not corrected, despite numerous opportunities.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS EDG DESIGN CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately address a nonconforming condition in the design of the EDGs which made the EDGs vulnerable to damage in response to a loss of offsite power (LOOP) signal under certain scenarios.

The team determined that the finding was of more than minor significance since the finding was associated with the design control and equipment performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency confirmed not to result in a loss of function per Generic Letter 91-18; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, an engineering change to modify the EDG start circuitry was initiated.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a previously identified condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ECCW OILER CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately review available industry operating experience information and failed to identify degraded oil reservoirs that could adversely impact the operability of both Emergency Closed Cooling Water (ECCW) pumps.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, a walkdown of all potentially affected oil reservoirs was conducted and the reservoirs were verified to be able to properly provide makeup oil to all potentially affected pump bearings.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a known industry problem associated with improper reservoir installation.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ESW COUPLING ASSEMBLY CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct a condition adverse to quality identified in IR 05000440/2004008 regarding an NCV for the failure to properly inspect the re-assembly of ESW pump couplings. During this inspection, the team identified that licensee corrective actions to address this issue were inadequate and again failed to prescribe an appropriate inspection of the ESW pump couplings during re-assembly.

The finding was of more than minor significance since the finding could be reasonably viewed as a precursor to a significant event. Specifically, the licensee failed to perform required inspections for the installation of mechanical equipment and this failure contributed to a previous ESW pump failure that was determined to be a White finding. The team noted that for both ESW pump failures, the pumps had satisfied post-maintenance testing acceptance criteria. Further, the team noted that improvements in quality control could have detected the

conditions that led to premature pump failure. Specifically, inspections could have detected the misalignment of the coupling that led to the first pump failure and improved quality control of parts could have prevented the second failure.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its Technical Specification (TS) allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, this issue was entered into the CAP.

This finding affected the cross-cutting area of Problem Identification and Resolution because the finding was associated with the licensee's failure to adequately address a significant condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS BREAKER TESTING CONCERNs

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to initiate a condition report to correct a condition adverse to quality following an error in the performance of a safety-related breaker overcurrent device calibration procedure step.

The team determined that the finding was of more than minor significance because the ineffective implementation of procedure steps by maintenance, if left uncorrected, could become a more significant safety concern since safety-related equipment may not be properly tested, reassembled, or maintained.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, procedure steps were re-performed, and the breaker was re-tested satisfactorily.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to generate a condition report to identify a condition adverse to quality which adversely impacted the licensee's ability to take effective corrective actions to address the issue.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCEDURE DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to ARC procedures used for the modification of safety-related equipment and modified a portion of the Division 1, 2, and 3 EDG exhaust ventilation system without declaring the ventilation system unavailable, as required.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the EDGs were declared inoperable until the modification was removed.

This finding affected the cross-cutting area of Human Performance since licensee personnel failed to adhere to the ARC procedure associated with the modification activities.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL DISCONNECT STATUS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when licensee personnel improperly performed a procedure step for verification of the position of RCIC system electrical disconnects.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical disconnects were properly positioned.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to procedure steps for aligning RCIC system electrical disconnects.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL JUMPER REMOVAL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when maintenance personnel incorrectly performed a procedure step which verified that electrical jumpers had been removed from an electrical cabinet and as a result, inadvertently left an electrical jumper installed in the cabinet.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical jumper that was inadvertently left in the affected electrical cabinet was removed.

This finding affected the cross-cutting area of Human Performance because licensee personnel performed an incorrect procedure step which verified that electrical jumpers had been removed from an electrical cabinet.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TESTING FOLLOWING "HOT SHORT" MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to verify that the isolation function of the remote shutdown panel (RSP) emergency transfer switch was operable after a modification re-wired the switch and placed a previously unused set of contacts in the isolation circuit.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The severity of the deficiency was determined to have a low degradation rating,

because the reliability of the system function impacted by the finding was not significant. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, licensee personnel verified the adequacy of the design modification through the performance of a suitable test.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFE SHUTDOWN MOV DESIGN CHANGE ASSESSMENT

A finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), "Fire Protection," was NRC-identified when licensee personnel revised the fire protection program to use manual actions for replacing fuses for safe post-fire shutdown, but did not adequately assess the ability to perform the actions and did not verify or validate that adequate time was available to perform the actions.

The team determined that the finding was of more than minor significance since the finding was associated with the design control, equipment performance, and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The Phase 1 screening determined that a Phase 2 evaluation was required because the severity of the deficiency was determined to have a moderate degradation rating. The Phase 2 evaluation determined this finding was of very low safety significance, because no potentially challenging fire scenarios were developed.

As part of the licensee's immediate corrective actions, procedures were revised to add the affected fuses to the remote shutdown inventory and provide guidance regarding fuse replacement.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CONSIDER ENVIRONMENTAL IMPACT ON TRD MODIFICATION

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to adequately evaluate the effect of water intrusion on the insulation composite installed in the EDG exhaust enclosure during modification activities.

The team determined that the finding was of more than minor significance since the finding was associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding was a design deficiency or qualification deficiency confirmed not to result in a loss of safety function per Generic Letter 91-18. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, engineering personnel re-calculated expected concrete temperatures, taking into account wetted insulation, and verified that the EDG exhaust enclosure remained operable.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A MAINTENANCE PREVENTABLE FUNCTIONAL FAILURE

A finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(1), associated with the requirements for monitoring the effectiveness of maintenance, was identified when licensee personnel failed to establish appropriate goals and monitor the performance of the Division 2 EDG when the demonstration of effective control of performance of the EDG through appropriate preventive maintenance became invalid following a lube oil heat exchanger gasket failure.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification

deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's corrective actions, licensee personnel planned to discuss this issue with industry peers and determine whether the criteria used to categorize one of the EDG performance issues as a Maintenance Preventable Functional Failure was consistently understood and accepted.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SCAFFOLD CONSTRUCTION IN SAFETY-RELATED AREAS

Inspectors identified a finding of very low safety significance and a violation of Technical Specification 5.4 when, during a walkdown of the high pressure core spray (HPCS) system, inspectors observed that the scaffolding constructed in the Division 3 emergency diesel generator (EDG) and HPCS pump rooms failed to meet the seismic clearance requirements specified in licensee procedure GCI-0016, "Scaffolding Erection, Modification or Dismantling Guidelines," Revision 4. The inspectors observed that the procedural deviations were not evaluated by engineering to ensure that the safety-related HPCS system would not be adversely impacted during a seismic event. Additionally, inspectors noted that the scaffolding constructions in the Division 3 EDG and HPCS pump rooms were not tracked as a temporary alteration as required by Perry Administrative Procedure (PAP)-0204, "Housekeeping/Cleanliness Control Program," Revision 14. The primary cause of this finding was the failure to implement appropriate procedures for construction of scaffolding that could affect safety-related equipment. The primary cause was related to the cross-cutting area of Human Performance in that the licensee failed to follow both procedures, GCI-0016 and PAP-0204.

The finding was more than minor because, if left uncorrected, the failure to follow procedures for scaffold construction in safety-related areas would become a more significant safety concern. Additionally, the failure to follow procedures designed to protect safety-related equipment from scaffold construction adversely affects the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to be of very low safety significance because, assuming HPCS was rendered inoperable following a seismic event due to non-seismic scaffolding, Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic events and the operability of other mitigating systems. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures for performing maintenance on safety-related systems.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TS 5.4 REQUIRED PLANT FIRE PROCEDURES FOR DISCOVERY OF A FIRE

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on January 13, 2005, when a chemistry technician failed to promptly notify the control room upon discovery of an unexpected fire. The fire was located in the chemistry oil lab room of the control complex building within the protected area. The primary cause of this finding was related to the cross-cutting area of Human Performance. The chemistry technician failed to recognize that, in accordance with the Fire Protection Program, prompt notification to the control room is required when a fire is discovered.

The finding was more than minor because the failure to promptly report a fire prevents plant operators in the control room and other plant personnel from taking prompt and appropriate action pursuant to Fire Protection Program procedures. The resulting failure to implement the Fire Protection Program procedure on discovery of a fire degrades the facility's ability to meet the cornerstone objective of mitigating systems. Although not suitable for Significance Determination Process review, the finding was determined, by regional management, to be of very low safety significance in that (1) the finding did not affect the operability of the automatic fire detection and suppression systems in the affected fire zone, (2) the fire zone was outside of the vital area of the plant, and (3) the fire zone did not contain safe shutdown systems. Additionally, there was no identified damage to safety-related equipment due to the fire, and the fire was observed to be confined to an oven.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE RESTORATION OF IRM 'A'

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed during a reactor start-up on January 30, 2005, when the intermediate-range monitor (IRM) 'A' instrument was discovered to be inoperable after reactor criticality had been achieved. Prior to start-up, it had been established that IRM 'C' was inoperable. The inoperability of both IRM 'A' and IRM 'C' resulted in operability of less than the minimum required number of IRM channels per trip system of the reactor protection system (RPS) for Mode 2 operation. The licensee entered the appropriate Technical Specification action statement and, as required by licensee procedure, commenced a

normal reactor shutdown. The primary cause of this finding was the failure to implement appropriate procedures during maintenance activities on IRM 'A'. A cable connection between the intermediate-range detector and the intermediate-range instrument was left loosely attached at the conclusion of the maintenance activity. This rendered the IRM 'A' instrument inoperable. Additionally, the maintenance procedure lacked appropriate acceptance criteria for determining that the maintenance had been satisfactorily accomplished. The primary cause of this finding was related to the cross-cutting area of Human Performance in that technicians failed to adequately attach and verify connection of the cable in the IRM 'A' system.

The finding was more than minor because it resulted in a reactor start-up and operation in Mode 2 with less than the required number of IRM trip function channels per RPS trip system. This degraded the plant's ability to meet the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, the finding resulted in an unplanned reactor shutdown. The finding was of very low safety significance because RPS trip capability was maintained due to designed redundancy in the system logic. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures covering the intermediate-range nuclear instrument system.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION AFTER IDENTIFYING THAT ERRONEOUS OR UNEXPLAINABLE DATA WAS RECORDED DURING TS REQUIRED TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on January 18, 2005. Specifically, the licensee failed to take prompt corrective action after identifying on January 17, 2005, that erroneous or unexplainable data was recorded during Technical Specification required emergency closed cooling water (ECCW) 'B' pump and valve operability testing. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. After the inspectors brought the issue to the attention of control room personnel, the licensee initiated action to re-code the surveillance as "no credit" based on suspect data. Action was also initiated to reschedule the surveillance prior to its overdue date of February 4, 2005. The licensee's subsequent performance of the surveillance test was not properly performed which resulted in a missed Technical Specification 5.5.6 surveillance and an additional 10 CFR 50, Appendix B, Criterion XVI violation was identified by the inspectors. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements.

The inspectors concluded that the failure of a system engineer, an engineering supervisor, and a senior reactor operator to take action to correct an identified condition adverse to quality was more than minor in that it could reasonably be viewed as a precursor to a significant event and, with respect to the performance of Technical Specification required surveillance testing, was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that ECCW 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATE CREW PERFORMANCE DURING ECCW TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on February 7, 2005. Specifically, the licensee failed to identify and correct a condition adverse to quality following the inspectors' identification, on January 18, 2005, of an improperly performed Technical Specification required surveillance. As a result of the licensee's failure to properly evaluate the January 5, 2005, performance deficiency and take appropriate corrective action, the surveillance test was again performed improperly on February 1, 2005. In addition to causing unnecessary safety system unavailability during repetitive performances of the procedure, the inadequate performance of the test on February 1, 2005, resulted in a missed Technical Specification 5.5.6 surveillance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements. An apparent cause investigation was initiated to review surveillance performance issues.

The inspectors concluded that the failure of the licensee to adequately address performance issues with respect to a Technical Specification required surveillance procedure was more than minor in that it could reasonably be viewed as a precursor to a significant event and, in this case, resulted in a second improper performance and a missed Technical Specification surveillance. Additionally, the issue was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that emergency closed cooling water 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT ESTABLISHMENT OF FLOW PATH FROM SUPPRESSION POOL TO AUXILIARY BUILDING FLOOR DRAINS DURING RHR LLRT

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 27, 2005. Specifically, while performing a local leak rate test (LLRT) for the residual heat removal (RHR) 'A' suppression pool suction valve, 1E12-F004A, the valve was opened with the RHR 'A' system drained and vented. As a result, the suppression pool began draining through an open 8 inch drain valve and then overflowed to the auxiliary building floor. The draining was terminated within minutes when the valve was closed per the next step in the LLRT procedure.

The inspectors determined that inadvertent draining of the suppression pool to the auxiliary building floor was a performance deficiency warranting a significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. The inspectors determined that the finding: (1) did not increase the likelihood of a loss of reactor coolant system (RCS) inventory; (2) did not degrade the licensee's ability to terminate a leak path or add RCS inventory when needed; and (3) did not degrade the licensee's ability to recover decay heat removal if lost. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in a loss of suppression pool volume.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: **G** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IMPLEMENTATION OF TS 3.4.10 FOR ALTERNATE HEAT DECAY REMOVAL

Inspectors identified a finding of very low safety significance for the licensee's failure to adequately implement Technical Specification 3.4.10 requirements for alternate decay heat removal methods as amended to the license during the Technical Specification improvement program to adopt Technical Specifications based on NUREG-1434 (Improved Standard Technical Specifications). The finding was considered to be a Non-Cited Violation of 10 CFR 50.36(c)(2)(I). The licensee has initiated action to install an alternate decay heat removal system.

The inspectors determined that the licensee's failure to adequately implement Technical Specification 3.4.10 was more than minor because it was directly associated with the mitigating system cornerstone objective of availability of a mitigating system. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance in that (1) the Mode 4 conditions were maintained by the inoperable, but running, RHR 'B' system and (2) the licensee maintained vacuum within the condenser to provide a method of decay heat removal had coolant temperature rose sufficiently to produce steam.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: **G** Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE GUIDANCE TO REFURBISH BREAKERS WITHIN VENDOR-SPECIFIED TIME FRAMES OR TO PROVIDE REASONABLE ALTERNATIVE PREVENTATIVE MAINTENANCE PRACTICES

The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation of Technical Specifications for inadequate safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to refurbish breakers within the vendor's specified time frames or provide reasonable alternative preventative maintenance practices to ensure that safety-related breakers remained operable.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specification Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The issue was entered into the licensee's corrective action program and is being evaluated under multiple condition reports (CR 05-0187, CR 05-00230, CR 05-00253, CR 05-00274, CR 05-00283, CR 05-00295, CR 05-00359, CR 05-00459).

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: **G** Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE THE VENDOR'S GAP REQUIREMENTS INTO OPERATIONS MANUAL INSTRUCTIONS

The inspectors identified a finding having very low safety significance and associated Non-Cited Violation of Technical Specifications for inadequate procedures associated with safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to measure and monitor critical measurements identified by the vendor.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee

failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specifications Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The finding was entered into the licensee's corrective action program and is being evaluated under condition reports CR 05-00364 and CR 05-00095.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: **G** Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AND PERFORM TROUBLESHOOTING WITHOUT FULL BENEFIT OF A TROUBLESHOOTING PLAN

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to quarantine equipment. The inspectors determined the failure to quarantine the motor feed pump (MFP) breaker cubicle impaired the licensee's ability to identify the associated failure mechanism for the January 6, 2005 failure of the MFP breaker to close. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine the MFP breaker after the January 6, 2005 failure, if left uncorrected, could become a more significant safety concern. The finding affected the short term heat removal element of the Mitigating System Cornerstone and that the issue was not a design deficiency that resulted in a loss of function. The finding was of very low safety significance because the system was not a safety system and that the system was not a TS system. In addition, the finding did not represent an actual loss of safety function or equipment designed as risk-significant per 10 CFR 50.65 for greater than 24 hours, the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event, therefore the finding screened as Green. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: **G** Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY IDENTIFY A DEGRADED FIRE BARRIER

The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 1 emergency diesel generator (EDG) room and the EDG building corridor. The finding was not considered a violation of regulatory requirements. The inspectors identified a fire door that was not latched and therefore was not fully capable of providing its required function of preventing fire spread and maintaining CO₂ suppression within the confines of the Division 1 EDG room. Once identified, the licensee immediately established a watch on the door and completed repairs later that day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it was associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because risk-significant equipment in the exposed area had at least 20 minutes of protection due to passive barriers.

Inspection Report# : [2004015\(pdf\)](#)

G

Significance: **G** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

REINSTALLATION OF NONCONFORMING RELIEF VALVE

A finding of very low safety significance was identified by the inspectors on December 3 for a violation of 10 CFR 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components." Specifically, on October 25, while attempting to locate a relief valve which had failed as-found set pressure testing, the licensee determined that a nonconforming relief valve had been reinstalled in the Division 2 emergency diesel generator lube oil system during the divisional outage earlier that month. Once the improper installation was identified, the licensee initiated both an operability determination and a work package to replace the relief valve. The valve was replaced on October 26. While reviewing the licensee's apparent cause of the reinstallation, the inspectors identified that the licensee failed to identify or address noncompliance with quality control requirements as specified in Nuclear Repair Manual NRM, Section 15, "Nonconforming Material or Items," Rev. 4. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it could reasonably be a precursor to a more significant event. This issue had very low safety significance because it did not involve a loss of safety function.

Inspection Report# : [2004015\(pdf\)](#)

W

Significance: **W** Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CONTROL LOW PRESSURE TEST GAGES

A finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment" was self-revealed on May 6, 2005. Specifically, on April 30, 2005, with the plant in a cold shutdown condition, the licensee installed temporary test gages to the tailpiece of residual heat removal (RHR) test connection isolation valve E12-F059B and to the test connection on the low pressure side of leak detection system (LDS) differential pressure detector E31-N077B associated with the reactor water clean-up (RWCU) return to the feedwater system flow instrument. The gages were installed to support operability testing of RWCU check valve G33-F052B. Contrary to the Perry Problem Solving Plan associated with work order (WO) 200147914, operators failed to remove the test gages following testing and prior to plant start-up. On May 6, 2005, a non-licensed operator in the RHR 'A' room noted that the temporary gage connected downstream of E12-F059B was still installed. After an extent of condition review was performed by the licensee, a second gage installed in the RWCU/LDS was identified. The primary cause of the finding was related to the cross-cutting issue of Human Performance in that the gages were not removed per the WO procedure.

The inspectors determined that leaving low pressure (300 psig) rated test equipment installed in a system (RWCU) that experiences normal operating pressure conditions of approximately 1000 psi was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding only resulted in a degradation in the radiological barrier function of the Auxiliary Building and the finding did not result in an actual open pathway in the physical integrity of the reactor containment or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment.

Inspection Report# : [2005006\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

PERMANENT STRUCTURES IN CONTACT WITH CONTAINMENT WALL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to identify and correct numerous permanent structures (deck grating) that did not meet seismic separation distance requirements to the inside containment wall.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions all identified deficiencies were corrected and required seismic separation distances were restored.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS RWCU PCIV CLOSURE CONCERNs

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to promptly identify, and therefore correct in a timely manner, the condition of the reactor water cleanup (RWCU) primary containment isolation valves (PCIVs) inability to close when being secured from a normal RWCU valve lineup.

The team determined that the finding was of more than minor significance since the finding was associated with the reactor coolant system (RCS) equipment and barrier performance attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

To address this issue, licensee personnel initiated actions to improve the performance margin of the affected valves and review calculations to clarify the design and licensing basis.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct the previously identified condition of the RWCU PCIVs inability to close under all operating conditions.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFETY EVALUATION FOR THE NOBLECHEM™ PROCESS

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to perform an adequate safety evaluation review as required by 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. The licensee initiated a NobleChem™ process, which involved deposition of noble metals on primary plant components, but failed to provide a basis for the determination that this change was acceptable without a license amendment. Specifically, the safety evaluation failed to address the impact of the NobleChem™ process on the fuel peak cladding temperature in a post loss-of-coolant accident environment due to catalytic action involving two exothermic reactions.

Because the Significance Determination Process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, this issue was dispositioned using the traditional enforcement process in accordance with Section IV of the NRC Enforcement Policy. However, the results of the violation, that is, the failure to fully evaluate the NobleChem™ process, were assessed using

the Significance Determination Process.

The inspectors considered this issue of more than minor significance, because the finding could have become a more significant safety concern in that, the licensee failed to demonstrate through a documented analysis that the integrity of fuel cladding was not affected by the NobleChem™ process. Because a subsequent vendor analysis adequately demonstrated the integrity of fuel cladding, it was determined that the licensee's failure to provide an adequate basis for the safety evaluation 01-0007 was an issue of very low safety significance and the violation of 10 CFR 50.59 was classified as a Severity Level IV Non-Cited Violation, consistent with the NRC Enforcement Policy. Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

DROPPED JET PUMP PLUG

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 28, 2005. Specifically, while removing a jet pump plug assembly from the reactor vessel, the plug broke loose from the handling pole and roped L-hook while being lifted over the refuel floor auxiliary platform. As a result, the plug dropped approximately 60 feet, primarily through water, and landed on top of several fuel bundles in the reactor core.

The inspectors determined that dropping a jet pump plug assembly, weighing approximately 25 pounds, onto the top of the reactor core was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the dropped plug was subsequently determined to not have caused damage to the fuel. The finding affected the cross-cutting issue of Human Performance because a personnel error caused the plug to be dropped.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT CONTROL ROD WITHDRAWAL

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on March 10, 2005. Specifically, while attempting to verify the position of control rod 18-55, a senior reactor operator (SRO) inadvertently withdrew control rod 58-35 from position 00 to position 02. Upon recognition of the condition, the SRO took the Technical Specification required actions and immediately reinserted the control rod.

The inspectors determined that a personnel error that resulted in the inadvertent withdrawal of a control rod was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the rod movement had minimal impact of reactivity as evidenced by the lack of response by source range instrumentation and subsequent licensee shutdown margin assessment. Further, the error was immediately recognized and the control rod was inserted to position 00 in less than 15 seconds. Additionally, the SRO's use of the withdraw pushbutton self-limited the movement to one notch. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in an inadvertent step withdrawal of a control rod.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPERLY INSTALLED SCAFFOLDING

A finding of very low safety significance was self-revealed on October 25, 2004, for a violation of Technical Specification 5.4, "Procedures." On October 25, after operations initiated the clearance (tagout) for the maintenance activities, maintenance personnel noticed that the linear converter shaft for the damper was pressing down into the scaffold that was built directly underneath the component. On October 18 the licensee installed a scaffold underneath the annulus exhaust gas treatment system (AEGTS) exhaust damper 'B' which interfered with the movement of the component's linear converter shaft and prohibited the full opening of the damper. The AEGTS 'B' train was thus rendered inoperable due to the interference of the scaffold onto the damper. Once identified, the licensee declared the system inoperable, took prompt action to reposition the scaffold, and performed testing of the damper to assess potential damage. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it was associated with the reactor safety cornerstone attribute of barrier performance and affected

the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because, per Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the finding only represented a degradation of the radiological barrier function of the AEGTS.

Inspection Report# : [2004015\(pdf\)](#)

G

Significance: G Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER USE OF FIX-IT-NOW PROCESS TO ADJUST VALVE PACKING

A finding of very low safety significance was self-revealed on November 17 for a violation of Technical Specification 5.4 "Procedures." Specifically, contrary to the requirements of NOP-WM-9001 "FIN/Toolpouch Maintenance Process" the Fix-It-Now process was used to adjust the packing on the demineralized water system containment isolation valve P22-F0010. As a consequence, the licensee used an incorrect procedure to adjust the packing, failed to perform post-maintenance testing on the valve and failed to stroke the valve to consolidate the packing. Once identified, the licensee took prompt action to perform valve maintenance and subsequent testing for satisfactory valve performance. The primary cause was related to the cross-cutting area of Human Performance.

The finding was more than minor because it could reasonably be a precursor to a more significant event. Specifically, key steps to ensure proper valve operation were omitted from the work process. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barriers Cornerstone. The inspectors determined the finding did not involve an actual open pathway in the physical integrity of the reactor containment and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2004015\(pdf\)](#)

Emergency Preparedness

Significance: SL-IV May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE USE OF HP TECHNICIAN AS INTERIM OSCC

A finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.54(q) was NRC-identified when licensee personnel failed to obtain prior NRC approval for a change to the Perry Emergency Plan concerning emergency response organization (ERO) staffing and response timeliness. Because the issue affected the NRC's ability to perform its regulatory function, it was processed through the traditional enforcement process and evaluated using the SDP.

Using IMC 0612, Appendix B, "Issue Dispositioning Screening," the inspectors determined that the finding was more than minor because it was associated with the ERO readiness and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

The finding was considered to be of only very low safety significance since the period of vulnerability to the issue was short.

As part of the licensee's corrective actions, the issue was entered in the licensee's corrective action program for resolution as CR 05-03271.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: G May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY IMPACT OF SECURITY PLAN CHANGE ON EMERGENCY PLAN

A finding of very low safety significance and an associated NCV of 10 CFR 50.47(b)(4) was NRC-identified when a change was made that adversely impacted Emergency Action Level (EAL) implementation. Specifically, a Security Plan revision implemented on November 8, 2005, eliminated terms from the Security Plan and Security Event Checklists, which adversely affected EAL classifications.

The team determined that the finding was of more than minor significance since the finding was associated with the ERO performance and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

Using IMC 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," and Sheet 1, "Emergency Preparedness Significance Determination Process - Failure to Comply," the team determined that this finding involved a planning standard problem, involved a risk-significant planning standard (RSPS) problem, did not result in a planning standard function failure, and did not result in a RSPS degraded function. Therefore, the finding screened as Green and was considered to be of only very low safety

significance.

As part of the licensee's immediate corrective actions, the licensee issued Security Operations Directive 05-0005 to require security personnel to use appropriate terms to communicate event information to the shift manager.

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Nov 19, 2004

Identified By: NRC

Item Type: VIO Violation

Failure to Perform Emergency Dose Assessment During an Alert Within 15 minutes Required by EAL HA1

The inspectors identified an apparent violation having preliminarily low-to-moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an Alert level event declared on July 20, 2004. During this event, the licensee staff failed to perform a Computer Aided Dose Assessment Program (CADAP) run within 15 minutes of the Alert declaration as required by the licensee's Emergency Plan.

The finding was determined to be greater than minor because it affected the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the issue was more than minor because it represented a failure to implement a regulatory requirement during a real event which could have prevented the correct emergency classification. The finding was preliminarily determined to be of low to moderate safety significance because the licensee failed to implement a risk significant planning standard (10 CFR 50.47(b)(4)) during an actual Alert emergency.

After considering the information developed during the inspection and the additional information provided in your January 26, 2005, letter, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2004016\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Inspection Report# : [2005007\(pdf\)](#)

Occupational Radiation Safety

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

CONTRACTORS IN HIGH RADIATION AREA WITHOUT REQUIRED PERMIT

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.1 was self-revealed when, in two separate instances, contractor radiation workers were found inside posted high radiation areas without being signed on the appropriate radiation work permits for these areas. Specifically, in the first instance, on January 10, 2005, a contractor supervisor was observed inside a posted high radiation area/contaminated area without the required protective clothing. The individual was determined to be signed on a low risk radiation work permit for heater bay work. The individual did not receive the required high radiation area briefing for the turbine condenser bay area (a posted high radiation area) and was not signed on the required higher risk radiation work permit. In the second instance, on March 8, 2005, a radiation protection technician discovered two contractor radiation workers, that were signed on a low risk radiation work permit for work in the turbine heater bay, in a high radiation area and had not received the required high radiation area briefing for the residual heat removal heat exchanger room. The workers failed to sign off of the low risk radiation work permit and to sign on to the medium risk radiation work permit and did not obtain a radiation protection brief prior to entry into this room. Corrective actions taken by the licensee included restricting the individuals from the radiologically restricted area.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individuals failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ENTRY INTO A LOCKED HIGH RADIATION AREA WITHOUT REQUIRED RADIATION PROTECTION BRIEFING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.2 was self-revealed on March 31, 2005, when an operator working on a radiation work permit that did not permit entry into a locked high radiation area entered a posted locked high

radiation area without having received the required radiation protection brief. The individual was tasked with performing a valve lineup on the N71 valve system in the turbine building catacombs. The N71 valve was located above a permanent valve platform that was posted and controlled as a locked high radiation area. Adjacent to the platform was scaffolding which provided access to a condenser man-way. The proximity of the scaffolding made it possible to access the permanent platform from the scaffolding platform. The individual ascended the scaffold to its platform, and while crossing to the permanent platform, was able to perform the required valve observation. After completing the task he stepped onto the permanent valve platform and noted a locked high radiation area posting. He exited the permanent platform via the temporary scaffolding that he originally used to access the area. Corrective actions taken by the licensee included restricting the individual from the radiologically restricted area for several days, counseling and coaching by radiation protection and operations management, and the individual prepared a job briefing sheet for co-workers.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individual failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

Public Radiation Safety



Significance: May 26, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO ADEQUATELY ADDRESS ELEVATED DOSE RATE CONCERNS

A finding of very low safety significance was NRC-identified when licensee personnel failed to implement corrective actions to prevent recurrence of a significant condition adverse to quality in a timely manner. Specifically, corrective actions to investigate the organizational causes for elevated dose rates in Refueling Outage 9 (RFO9) failed to identify corrective actions to prevent recurrence. No violation of regulatory requirements occurred.

The team determined that the finding was of more than minor significance because, if left uncorrected, the finding would become a more significant safety concern. Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no safety-related equipment was rendered inoperable as a result of the performance deficiency.

This finding affected the cross-cutting area of Problem Identification and Resolution because the licensee failed to implement a corrective action to address a root cause of a condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : November 30, 2005

Perry 1

4Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

AUTOMATIC ESF ACTUATION DUE TO UNTIMELY CORRECTIVE ACTIONS AND INEFFECTIVE INTERIM ACTIONS

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on August 12, 2005, when licensee personnel failed to promptly correct a condition adverse to quality. Specifically, on July 2, 2005, licensee personnel identified that the reactor water cleanup system valve nest room had elevated temperatures. Shortly thereafter, the licensee's problem solving team identified that a leak detection thermocouple was not providing an indication representative of actual room temperature due to its location. The improper placement of the thermocouple was not promptly corrected. The licensee failed to resolve the issue in a timely manner in that a reactor water cleanup system automatic isolation, an engineered safety feature actuation, occurred on August 12, 2005. Additionally, interim licensee actions to reduce room temperature, such as through securing a reactor water cleanup pump, had an adverse impact on plant performance in that the licensee concluded that the system manipulations induced a reactor water cleanup system leak on a non-regenerative heat exchanger vessel flange. The reactor water cleanup system was placed back in service on August 12, 2005, the thermocouple was relocated on August 14, 2005, and the heat exchanger vessel flange leak was stopped on September 6, 2005.

The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss-of-coolant-accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not promptly corrected.

Inspection Report# : [2005009\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: FIN Finding

UNTIMELY HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance for the licensee's failure to sufficiently coordinate and adequately prepare for the onset of hot weather prior to May 1, 2005. Specifically, the licensee failed to complete work associated with critical components, in accordance with established expectations that specified completion prior to April 30, 2005. As a result, critical tasks had not been completed prior to the onset of near record warm weather beginning June 5, 2005.

The inspectors determined that the issue was more than minor because, if left uncorrected, the finding would become a more significant safety concern. The finding was also associated with the reactor safety initiating events cornerstone and affected the cornerstone's objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because no safety-related functions or mitigating systems were rendered inoperable and no plant transient was initiated. No violation of NRC requirements occurred.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY THE EFFECT OF DEENERGIZING BUS K-1-D ON DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of 10 CFR 50.65(a)(4) was self-revealed during preparation for an electrical distribution panel F1F14 outage on April 4, 2005. The reactor was shutdown at the time of the event. Specifically, the licensee failed to identify the impact of planned breaker manipulations on the fuel pool cooling and cleanup (FPCC) system. Per an Operations Evolution Order, the K-1-D electrical bus was de-energized which de-energized the fuel pool filter demineralizer (FPFD) control panel, H51-P173. As a result, the demineralizer flow control valves shut. The flow control valve repositioned and reduced FPCC flow to the reactor cavity pool from 720 gpm to 520 gpm and flow to the spent fuel pool from 700 gpm to 600 gpm. At the time of the event, FPCC was the primary method of decay heat removal. Numerous alarms were received in the control room. Control room personnel assessed the transient and within 30 minutes opened the FPCC fuel pool filter demineralizer bypass valve to restore proper flow to the reactor pool and spent fuel pool. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to properly assess the impact of a planned

maintenance activity on a key shutdown safety function.

The finding was more than minor because the failure to identify the impact of the planned maintenance activity adversely affected a protected train of equipment providing the key shutdown safety function of decay heat removal. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it adversely affected the FPCC decay heat removal function. The finding was of very low safety significance because FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of 10 CFR 50.65(a)(4) which required the licensee to assess and manage the increase in risk that may result from proposed maintenance activities.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed during preparation for Division 2 loss of off-site power (LOOP) testing on April 5, 2005. The reactor was shutdown at the time of the event. Valves in the cooling water supply path to the FPCC system heat exchangers were unintentionally isolated. This resulted in loss of decay heat removal from the reactor pool and spent fuel pool for approximately two hours. Operators subsequently discovered the valves were out of position, restored the system to the correct lineup, and restored decay heat removal. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to implement procedures as written. Specifically, the licensee personnel performing the test preparations performed a procedure step out of sequence which resulted in the loss of cooling water to the FPCC heat exchangers.

The finding was more than minor because the failure to follow procedures resulted in a loss of cooling for the reactor pool and spent fuel pool for approximately two hours. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control, and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it resulted in loss of FPCC decay heat removal function. The finding was of very low safety significance because the FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of TS 5.4 which required the implementation of written surveillance test procedures.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES AFFECTING SAFETY-RELATED DIVISION 3 BREAKERS

A finding of very low safety significance and a violation of TS 5.4, "Procedures," was self-revealed on April 21, 2005. While the plant was shutdown for a refuel outage, the licensee conducted LOOP response testing of the Division 3 high pressure core spray (HPCS) emergency diesel generator (EDG). The procedure required the installation of a jumper between terminal points in the HPCS preferred source breaker cubicle, EH1303. Contrary to procedure, technicians installed the jumper in the alternate preferred source breaker cubicle EH1302. The error was identified when control room operators attempted to close breaker EH1302 and it did not close as expected. The jumper was subsequently removed from the EH1302 cubicle without consequence. The primary cause of this finding was related to the cross-cutting issue of Human Performance. Specifically, licensee technicians failed to perform the procedure as written and failed to use independent verification and, as a result, installed the jumper in the wrong cubicle.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Additionally, if left uncorrected, the failure to follow procedures affecting safety-related equipment would become a more significant safety concern. The inspectors determined that the finding was of very low safety significance because the finding did not involve a loss of safety function.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS CONTROL ROD MOVEMENT CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to implement adequate corrective actions for root causes associated with a significant condition adverse to quality. Specifically, the licensee identified "management failures in identifying problems with reactivity control systems" as a root cause for unexpected control rod movement, however licensee corrective actions failed to address this issue.

The team determined that the finding was of more than minor significance since it could be reasonably viewed as a precursor to a more significant event. Specifically, the corrective action intended to address management's oversight of the reactivity control systems did not address the licensee's identified cause and did not cover all activities that involve significant rod movement such as short forced outages and control rod pattern changes.

Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no initiating event occurred.

As part of the licensee's corrective actions, Condition Report 03-05995 was previously generated to address organizational issues through the use of the Plant Health Committee, clarification of the roles and responsibilities of managers and directors, and to develop the Perry PII. Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS TRAINING DEVIATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct in a timely manner a condition adverse to quality regarding operators' failure to use required human performance error reduction tools during stressful situations. The finding was of more than minor significance because the finding could reasonably be viewed as a precursor to a significant event since the continued deviation from established procedures and training during stressful times had the potential to result in an initiating event or result in more significant consequence following an initiating event.

Using IMC 0609, "Significance Determination Process," the team determined that this finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, human performance tools were implemented which addressed the importance of procedure adherence during events and other stressful situations.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to take corrective actions to address a condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INSTRUMENTATION AND CONTROL TECHNICIAN ERROR RESULTS IN INADVERTENT ESF ACTUATION

A finding of very low safety significance and a violation of Technical Specification 5.4, "Procedures" was self-revealed on February 3, 2005. Specifically, while calibrating the containment/drywell purge exhaust radiation monitor 1D17-K660, an error by an instrumentation and control (I&C) technician resulted in an engineered safety feature (ESF) actuation. Specifically, backup hydrogen purge system containment isolation valves M51-F090 and M51-F110 received an isolation signal. The valves functioned as designed and isolated the backup drywell hydrogen purge system. Control room personnel realigned the backup drywell hydrogen purge system in accordance with the system operating instruction. Additional I&C personnel reset the trip signal and completed the calibration procedure successfully. The primary cause of this finding was related to the cross-cutting issue of Human Performance because a personnel error was the primary cause of the event.

The inspectors determined that an inadvertent ESF actuation due to improper performance of an I&C procedure was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss of coolant accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE INDUSTRY OPERATING EXPERIENCE INTO PREVENTATIVE MAINTENANCE ACTIVITIES

A self-revealed finding of very low significance and a Non-Cited Violation of 10 CFR 50.65(a)(3) was identified. The finding involved the transient initiated as a result of a trip of "A" reactor recirculation pump low frequency motor generator and subsequent manual scram of the reactor. The Non-Cited Violation was associated with a failure to incorporate industry operating experience into preventive maintenance activities that would have prevented the failure of the "A" reactor recirculation pump. The primary cause of this violation was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because the event caused an actual upset in plant stability and operation resulting in a plant transient, thereby directly affecting the objective for the Initiating Events Cornerstone. Additionally, the trip affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other

mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. Proposed and completed corrective actions included a formal root cause analysis, replacement of the defective voltage regulator, and establishment of a process to review post-transient performance data.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The finding involved the licensee's failure to quarantine equipment after both reactor recirculation pumps experienced an unplanned downshift from fast to slow speed on December 23, 2004. The inspectors determined that the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism for the simultaneous downshifting of both reactor recirculation pumps. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine equipment impaired the licensee's ability to identify the associated failure mechanism, and as a result, a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affected the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO EVALUATE AND DOCUMENT THE REMOVAL OF A MODE RESTRAINT AS REQUIRED BY PROCEDURES

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to properly assess and document the assessment for the removal of restart restraints prior to resuming reactor operation subsequent to the December 23, 2004, scram, and that the failure to appropriately close and document the basis for resolving a mode restraint prior to startup impaired the licensee's ability to identify the associated failure mechanism for the December 23 recirculation pump downshift event. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because a plant transient was initiated on January 6, 2005, that caused an actual upset in plant stability, which directly affects the objective for the Initiating Events Cornerstone. Additionally, the reactor recirculation pump downshifts affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

Mitigating Systems

G

Significance: Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL OIL PUMP PROCEDURES RESULTED IN DIVISION 2 EDG UNAVAILABILITY

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed during Division 2 Emergency Diesel Generator (EDG) post-maintenance testing on September 15, 2005, when the engine-driven fuel oil pump was discovered air bound after licensee personnel failed to implement appropriate procedures for the fill and vent of the pump suction and discharge lines following pump maintenance activities. As a result of operating the pump for about 40 minutes without proper fuel oil flow, the engine-driven fuel oil pump required replacement, which extended the Division 2 EDG maintenance outage by about 24 hours and incurred about 15 hours of unnecessary unavailability. As part of their corrective actions, the licensee removed the EDG from service, replaced the engine-driven fuel oil pump, and successfully re-tested the EDG on September 16, 2005. The primary cause of this finding was related to the cross-cutting area of Human Performance since licensee personnel failed to develop an appropriate fill and vent procedure for the engine-driven fuel oil pump.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE OIL RESERVOIR MAINTENANCE PROCEDURE IMPLEMENTATION FOR ECC 'B' PUMP RESULTED IN OIL LEAK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on October 30, 2005, when licensee personnel failed to develop an appropriate procedure for the replacement of the 'B' Emergency Closed Cooling (ECC) pump oil bearing reservoir, which resulted in an oil leak and unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 1, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to develop appropriate oil reservoir maintenance procedures.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: Dec 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT AN OIL RESERVOIR MAINTENANCE PROCEDURE ISSUE RESULTED IN ECC 'A' OIL LEAK

A finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on November 19, 2005, when licensee personnel failed to promptly correct a condition adverse to quality associated with the development of appropriate procedures for oil reservoir replacement, which resulted in an oil leak on the 'A' ECC pump, incurring unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 29, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct an inadequate oil reservoir maintenance procedure in a timely manner.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: Oct 28, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT ONLINE WORK MANAGEMENT PRACTICES THAT RESULTED IN UNNECESSARILY HIGH SAFETY SYSTEM UNAVAILABILITY

The inspector identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality. Specifically, the licensee failed to correct a

condition of inadequate online maintenance management that adversely affected safety system availability. In the second quarter of 2000, the heat removal system unavailability performance indicator crossed the Green-to-White threshold due to inadequate online work management, which led to high safety system unavailability. Between the years 2000 and 2004, the licensee identified on several occasions that safety system unavailability was higher than the industry average and that the station lacked an adequate process to balance online maintenance with safety system unavailability. Additionally, poor work management processes were noted to unnecessarily extend maintenance activities and adversely affect safety system availability. In the second quarter of 2004, the residual heat removal safety system unavailability performance indicator crossed the Green-to-White threshold. The licensee again identified that inadequate online maintenance management and generally higher than industry average safety system unavailability were primary contributing causes. Licensee corrective actions included management of safety system unavailability to 50 percent of the NRC Green-to-White threshold and work management improvements. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, since a condition adverse to quality was not corrected in a timely manner.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, from 2000 to 2004, the failure to promptly correct the condition of inadequate management of online work adversely affected safety system availability. The inspector determined that the finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005012\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT BORON LEAKAGE FROM THE STANDBY LIQUID CONTROL STORAGE TANK HEATER FLANGE

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality in a timely manner. Specifically, licensee personnel identified and documented on seven occasions from June 2002 through February 2005, boron accumulation on the standby liquid control system storage tank heater flange. In each instance the issue was identified as a "condition adverse to quality." The inspectors identified additional documentation of leakage and boron accumulation in the flange area dating back to April 28, 1997. As of July 29, 2005, the condition adverse to quality had not been corrected. The licensee entered the "untimely resolution of a condition adverse to quality" into their corrective action program and confirmed for the inspectors that the issue was included in the next planned refueling outage for resolution.

The finding was more than minor because, if left uncorrected, the finding would become a more significant safety concern. Specifically, the failure to repair the degraded flange connection allowed a condition to exist that could lead to increased leakage or premature failure of the connection. Further, as noted on multiple licensee condition reports, the leakage had on occasion migrated to other levels of containment which if left uncorrected could result in other adverse consequences. The inspectors determined that the finding (1) did not involve a loss of safety function and (2) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors therefore concluded that the finding was of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not corrected in a timely manner.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO EVALUATE INTERFERENCE WITH THE DESIGN RATTLE SPACE BETWEEN SAFETY CLASS BUILDINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to control deviations from design standards. On July 22, 2005, while performing a fire protection inspection in the intermediate building, the inspectors noted that a large storage cage (approximately 900 square feet in area and 10 feet high) was constructed in such a way that it interfered with the design rattle space between the containment shield building and the intermediate building column supports at several locations. The steel used to brace the cage directly communicated the containment shield building to the columns that supported the intermediate building. The inspectors reported the observation to the licensee and the licensee corrected the condition the same day. The primary cause of this finding was the failure to properly control deviations from design standards. The design seismic analysis of the building structures credited the rattle space in lieu of further analysis of the interaction between building structures; therefore, the interference of this space was not consistent with the design basis.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences in that it placed safety-related building structures in an unanalyzed condition. The inspectors determined that the safety functions

of the buildings were maintained and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE SATISFACTORY MAINTENANCE ON THE RHR CONTAINMENT SPRAY ISOLATION VALVE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed when residual heat removal containment spray isolation valve 1E12F028B failed to indicate open in the control room as expected during quarterly surveillance testing on June 25, 2005 due to inadequate maintenance. Operators declared the valve inoperable and isolated the associated penetration flow path for the valve in accordance with Technical Specification 3.6.1.3. This resulted in the unavailability of residual heat removal 'B' low pressure core injection and containment spray modes of operation. Subsequent visual inspection and electrical checks by licensee technicians revealed inadequate electrical connections in the electrical panel associated with the valve. The connections were repaired and the availability of residual heat removal 'B' low pressure core injection and containment spray was restored. The primary cause of this finding was the failure to promptly identify and correct conditions adverse to quality during maintenance associated with the valve actuator motor replacement that was performed in March 2005.

The finding was more than minor because it was associated with the reactor safety mitigating systems cornerstone attribute of equipment performance, and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable events. Specifically, the failure to identify the inadequate electrical connections following maintenance in the panel subsequently resulted in a failed control room indication on June 25, 2005, which caused operators to isolate the associated penetration flow path for the valve. This resulted in the unavailability of the residual heat removal 'B' low pressure core injection and containment spray modes of operation for about nine hours. The inspectors determined that the finding was of very low safety significance because the equipment safety function was not lost for greater than the Technical Specification allowed outage time. The primary cause of this finding was associated with the cross-cutting area of Problem Identification and Resolution, subcategory identification, in that improperly fastened electrical connections affecting a safety-related valve were not promptly identified.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE PROPER REASSEMBLY OF DIVISION 1 ESW PUMP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on March 2, 2005, during disassembly of the Division 1 emergency service water pump. Specifically, the licensee failed to provide adequate guidance in General Maintenance Instruction 0039, "Disassembly/Assembly of the Emergency Service Water Pumps," Revision 8, to ensure that the lineshaft sleeve spiro pins were adequately staked during pump assembly in May 2004. Due to the improper assembly, the pump's lineshaft sleeve spiro pins were found, in March 2005, to be extruded and sheared. Fortunately, the pins galled to the shaft and the lineshaft sleeve remained in place. As a result, no actual loss of safety function occurred. The licensee's corrective actions included a procedure revision and subsequent pump repair.

The finding was more than minor because, if left uncorrected, the failure to implement appropriate procedures for safety-related pump maintenance activities could reasonably be viewed as a precursor for a more significant event as evidenced by two previous Division I emergency service water pump failures in September 2003 and May 2004. The inspectors determined that the finding was of very low safety significance because there was no loss of safety function. The finding affected the cross-cutting area of Human Performance, subcategory organization, because licensee personnel failed to establish appropriate procedures.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATELY THREADED BOLTS ON RHR 'B'/'C' WATERLEG PUMP

The inspectors identified a finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify the inadequate thread engagement of two bolts on the residual heat removal (RHR) 'B'/'C' waterleg pump discharge flange. Inspectors identified the non-conforming condition during a walkdown of the RHR 'C' system while RHR 'C' was designated as the primary water inventory source for the shutdown reactor. Inspectors promptly reported the condition to the licensee and the licensee entered it into the corrective action program. The licensee performed corrective maintenance to fix the inadequate thread engagement on May 19, 2005. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. The failure to identify and correct inadequate thread engagement on bolted connections could allow premature failure and leakage from the connection. Additionally, the

finding was associated with the reactor safety mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to identify and correct non-conforming conditions on safety-related equipment degrades the reliability of the system to perform its safety function. The inspectors determined that the finding did not involve the loss of safety function and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005006\(pdf\)](#)

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE DESIGN REVIEW FOR TESTABLE RUPTURE DISK MODIFICATION

A finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on February 17, 2005, when the Division 2 EDG testable rupture disc (TRD) required excess force to lift during surveillance testing. A newly designed Division 2 TRD had been installed in October 2004 in an effort to address long-standing equipment performance issues. A similar design was installed on the Division 1 EDG in November 2004 and on the Division 3 EDG in April 2004. After the test failure on February 17, 2005, subsequent licensee inspection identified that the disc was warped. Due to potential common cause issues, the licensee declared all three EDGs inoperable and entered TS Limiting Condition for Operation (LCO) 3.0.3. The licensee unlatched all EDG TRDs to restore operability. The licensee's design review for the TRD did not adequately consider the potential for and the effect of deformation of the TRD disc due to heat. Additionally, the licensee's testing of the design modification was determined to be inadequate. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to perform an adequate design review.

The finding was more than minor because it affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of the EDGs in response to initiating events. Specifically, if the TRD failed to lift at the appropriate pressure, excessive back-pressure would adversely affect fuel consumption rates. Further, if the TRD failed to open with the normal EDG exhaust blocked, conditions could be established which would result in stalling of the EDG. The finding was determined to be of very low safety significance because Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic and tornado events.

Inspection Report# : [2005006\(pdf\)](#)

Significance: SL-IV Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

UNREPORTED SAFETY-SYSTEM UNAVAILABILITY FOR RHR

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to report residual heat removal (RHR) train 'B' unavailability from May 29, 2004, through June 3, 2004, while the emergency service water train 'B' was inoperable for pump repairs. The second quarter 2004 data reported to the NRC included RHR 'A' unavailability following failure of the ESW 'A' pump on May 21, 2004, but did not include the subsequent RHR 'B' unavailability. Prior to removing the ESW 'B' pump from service, the licensee developed a reactor pressure vessel feed and bleed method which they subsequently credited as an alternate decay heat removal system when calculating RHR system unavailability. The inspectors, however, reviewed the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, and could not conclude that the licensee's method met the "NRC approved method of decay heat removal." Due to the inspectors' concerns, the licensee submitted a "Frequently Asked Question." On May 19, 2005, the NRC determined that "NRC approval means a specific method or methods described in the technical specifications." As a result, the licensee recalculated and resubmitted RHR system unavailability on June 17, 2005. Had the performance indicator (PI) data been properly reported in the second quarter of 2004, the PI color would have been White. The failure to properly report the PI was considered a Severity Level IV Non-Cited Violation of 10 CFR 50.9.

Inspection Report# : [2005006\(pdf\)](#)

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SLC RELIEF VALVE TEST FAILURES

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to prevent repetition of a condition adverse to quality. Specifically, the standby liquid control (SLC) system pump discharge pressure relief valves failed to satisfy American Society of Mechanical Engineers (ASME) acceptance criteria for 6 of 10 in-service tests (ISTs) conducted over the last 20 years. On two occasions, in 1989 and 2001, the as-found relief valve condition would have prevented the SLC system from being able to perform its intended design function to mitigate an Anticipated Transient Without Scram (ATWS) event, coincident with a main steam isolation valve (MSIV) closure.

The finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that because this finding represented an actual loss of a safety function of one train of the system, a Phase 2 SDP analysis was required. In the Phase 2 SDP assessment, the ATWS event worksheet was

reviewed as specified by the Perry Plant Risk-Informed Inspection Notebook. The dominant core damage sequence was an ATWS event, followed by a loss of the SLC system. The Phase 2 SDP assessment determined that this finding was of very low safety significance (Green) because 1 of 2 SLC pumps remained available.

As part of the licensee's immediate corrective actions, licensee personnel compared the as-left setpoints for the currently installed relief valves to a design setpoint value, and ensured that an adequate margin existed for the SLC relief valves to adequately perform their safety function.

This finding affected the cross-cutting area of Problem Identification and Resolution since licensee personnel did not adequately evaluate prior SLC relief valve as-found test failures.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self-Revealing

Item Type: FIN Finding

DRYWELL SUPPLY FAN TRIPS DUE TO INADEQUATE MAINTENANCE

A finding of very low safety significance was self-revealed when repetitive drywell supply fan failures occurred due to inadequate maintenance and inadequate corrective actions to address a previous failure due to an identical root cause. No violation of regulatory requirements occurred.

The finding was of more than minor significance since the finding could reasonably be viewed as a precursor to a more significant event since identically designed fans existed in other risk-significant plant systems and a failure of those fans, under similar circumstances, could have also occurred.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected fan was repaired and an extent of condition review was performed.

This finding affected the cross-cutting area of Problem Identification and Resolution since the finding involved inadequate corrective actions to address a previous failure.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS LPCS/RHR 'A' AIR-BINDING

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when the licensee's corrective actions following air-binding of the low-pressure core spray (LPCS)/RHR 'A' waterleg pump failed to identify that high point vent valves were omitted from venting procedures which had the potential to render the reactor core isolation cooling (RCIC) system inoperable, as discussed in prior operating experience information.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected high point vent was added to the licensee's venting procedures and the affected piping was verified to be properly vented and filled with water.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to perform an adequate extent of condition review for high point vent valves omitted from venting procedures.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS MOV STEM LUBRICATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel continued to use "Never-Seez" in safety-related motor-operated valve (MOV) applications although industry operating experience identified that "Never-Seez" was not an adequate MOV stem lubricant. As a result, over a 10-year period, licensee personnel deferred MOV stem lubricant replacement while multiple MOVs failed as-found test acceptance criteria and exhibited accelerated stem nut wear.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all affected safety-related valves were scheduled to have their stem lubrication changed by the end of RFO10 (May 2005).

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to resolve a known condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCESS DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to At-Risk-Change (ARC) procedures used for the modification of safety-related equipment without a completed and approved modification package.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all modification work associated with the ARC process was suspended until all cognizant personnel were provided training.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately address implementation of the ARC process until questioned by the team.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS DIVISION 2 EDG OIL LEAK CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to repair a long-standing Division 2 EDG lubricating oil cooler packing leak that was identified in November 2000, until May 2004 when the leak degraded and required emergent maintenance, rendering the EDG unavailable.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the leak was repaired and the Division 2 EDG was returned to service.

This finding affected the cross-cutting area of Problem Identification and Resolution because station personnel missed several opportunities to implement repairs.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SCAFFOLDING ERECTION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct an issue regarding the installation of scaffolding erected near safety-related equipment which did not meet the seismic bracing or clearance criteria of licensee procedures.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of equipment that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all scaffolding work was suspended and licensee personnel were required to obtain engineering approval of all scaffolding erections.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to follow both the scaffolding erection procedure and the temporary alterations procedure. This finding also affected the cross-cutting area of Problem Identification and Resolution because a condition adverse to quality regarding scaffolding controls was not corrected, despite numerous opportunities.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS EDG DESIGN CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately address a nonconforming condition in the design of the EDGs which made the EDGs vulnerable to damage in response to a loss of offsite power (LOOP) signal under certain scenarios.

The team determined that the finding was of more than minor significance since the finding was associated with the design control and equipment performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency confirmed not to result in a loss of function per Generic Letter 91-18; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, an engineering change to modify the EDG start circuitry was initiated.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a previously identified condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ECCW OILER CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately review available industry operating experience information and failed to identify degraded oil reservoirs that could adversely impact the operability of both Emergency Closed Cooling Water (ECCW) pumps.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, a walkdown of all potentially affected oil reservoirs was conducted and the reservoirs were verified to be able to properly provide makeup oil to all potentially affected pump bearings.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a known industry problem associated with improper reservoir installation.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ESW COUPLING ASSEMBLY CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct a condition adverse to quality identified in IR 05000440/2004008 regarding an NCV for the failure to properly inspect the re-assembly of ESW pump couplings. During this inspection, the team identified that licensee corrective actions to address this issue were inadequate and again failed to prescribe an appropriate inspection of the ESW pump couplings during re-assembly.

The finding was of more than minor significance since the finding could be reasonably viewed as a precursor to a significant event. Specifically, the licensee failed to perform required inspections for the installation of mechanical equipment and this failure contributed to a previous ESW pump failure that was determined to be a White finding. The team noted that for both ESW pump failures, the pumps had satisfied post-maintenance testing acceptance criteria. Further, the team noted that improvements in quality control could have detected the conditions that led to premature pump failure. Specifically, inspections could have detected the misalignment of the coupling that led to the first pump failure and improved quality control of parts could have prevented the second failure.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its Technical Specification (TS) allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, this issue was entered into the CAP.

This finding affected the cross-cutting area of Problem Identification and Resolution because the finding was associated with the licensee's failure to adequately address a significant condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS BREAKER TESTING CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to initiate a condition report to correct a condition adverse to quality following an error in the performance of a safety-related breaker overcurrent device calibration procedure step.

The team determined that the finding was of more than minor significance because the ineffective implementation of procedure steps by maintenance, if left uncorrected, could become a more significant safety concern since safety-related equipment may not be properly tested, reassembled, or maintained.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single

train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, procedure steps were re-performed, and the breaker was re-tested satisfactorily.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to generate a condition report to identify a condition adverse to quality which adversely impacted the licensee's ability to take effective corrective actions to address the issue.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCEDURE DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to ARC procedures used for the modification of safety-related equipment and modified a portion of the Division 1, 2, and 3 EDG exhaust ventilation system without declaring the ventilation system unavailable, as required.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the EDGs were declared inoperable until the modification was removed.

This finding affected the cross-cutting area of Human Performance since licensee personnel failed to adhere to the ARC procedure associated with the modification activities.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL DISCONNECT STATUS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when licensee personnel improperly performed a procedure step for verification of the position of RCIC system electrical disconnects.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical disconnects were properly positioned.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to procedure steps for aligning RCIC system electrical disconnects.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL JUMPER REMOVAL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when maintenance personnel incorrectly performed a procedure step which verified that electrical jumpers had been removed from an electrical cabinet and as a result, inadvertently left an electrical jumper installed in the cabinet.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical jumper that was inadvertently left in the affected electrical cabinet was removed.

This finding affected the cross-cutting area of Human Performance because licensee personnel performed an incorrect procedure step which verified that electrical jumpers had been removed from an electrical cabinet.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TESTING FOLLOWING "HOT SHORT" MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to verify that the isolation function of the remote shutdown panel (RSP) emergency transfer switch was operable after a modification re-wired the switch and placed a previously unused set of contacts in the isolation circuit.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The severity of the deficiency was determined to have a low degradation rating, because the reliability of the system function impacted by the finding was not significant. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, licensee personnel verified the adequacy of the design modification through the performance of a suitable test.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFE SHUTDOWN MOV DESIGN CHANGE ASSESSMENT

A finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), "Fire Protection," was NRC-identified when licensee personnel revised the fire protection program to use manual actions for replacing fuses for safe post-fire shutdown, but did not adequately assess the ability to perform the actions and did not verify or validate that adequate time was available to perform the actions.

The team determined that the finding was of more than minor significance since the finding was associated with the design control, equipment performance, and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The Phase 1 screening determined that a Phase 2 evaluation was required because the severity of the deficiency was determined to have a moderate degradation rating. The Phase 2 evaluation determined this finding was of very low safety significance, because no potentially challenging fire scenarios were developed.

As part of the licensee's immediate corrective actions, procedures were revised to add the affected fuses to the remote shutdown inventory and provide guidance regarding fuse replacement.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CONSIDER ENVIRONMENTAL IMPACT ON TRD MODIFICATION

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to adequately evaluate the effect of water intrusion on the insulation composite installed in the EDG exhaust enclosure during modification activities.

The team determined that the finding was of more than minor significance since the finding was associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding was a design deficiency or qualification deficiency confirmed not to result in a loss of safety function per Generic Letter 91-18. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, engineering personnel re-calculated expected concrete temperatures, taking into account wetted insulation, and verified that the EDG exhaust enclosure remained operable.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A MAINTENANCE PREVENTABLE FUNCTIONAL FAILURE

A finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(1), associated with the requirements for monitoring the effectiveness of maintenance, was identified when licensee personnel failed to establish appropriate goals and monitor the performance of the Division 2 EDG when the demonstration of effective control of performance of the EDG through appropriate preventive maintenance became invalid following a lube oil heat exchanger gasket failure.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's corrective actions, licensee personnel planned to discuss this issue with industry peers and determine whether the criteria used to categorize one of the EDG performance issues as a Maintenance Preventable Functional Failure was consistently understood and accepted.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR SCAFFOLD CONSTRUCTION IN SAFETY-RELATED AREAS

Inspectors identified a finding of very low safety significance and a violation of Technical Specification 5.4 when, during a walkdown of the high pressure core spray (HPCS) system, inspectors observed that the scaffolding constructed in the Division 3 emergency diesel generator (EDG) and HPCS pump rooms failed to meet the seismic clearance requirements specified in licensee procedure GCI-0016, "Scaffolding Erection, Modification or Dismantling Guidelines," Revision 4. The inspectors observed that the procedural deviations were not evaluated by engineering to ensure that the safety-related HPCS system would not be adversely impacted during a seismic event. Additionally, inspectors noted that the scaffolding constructions in the Division 3 EDG and HPCS pump rooms were not tracked as a temporary alteration as required by Perry Administrative Procedure (PAP)-0204, "Housekeeping/Cleanliness Control Program," Revision 14. The primary cause of this finding was the failure to implement appropriate procedures for construction of scaffolding that could affect safety-related equipment. The primary cause was related to the cross-cutting area of Human Performance in that the licensee failed to follow both procedures, GCI-0016 and PAP-0204.

The finding was more than minor because, if left uncorrected, the failure to follow procedures for scaffold construction in safety-related areas would become a more significant safety concern. Additionally, the failure to follow procedures designed to protect safety-related equipment from scaffold construction adversely affects the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to be of very

low safety significance because, assuming HPCS was rendered inoperable following a seismic event due to non-seismic scaffolding, Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic events and the operability of other mitigating systems. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures for performing maintenance on safety-related systems.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TS 5.4 REQUIRED PLANT FIRE PROCEDURES FOR DISCOVERY OF A FIRE

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on January 13, 2005, when a chemistry technician failed to promptly notify the control room upon discovery of an unexpected fire. The fire was located in the chemistry oil lab room of the control complex building within the protected area. The primary cause of this finding was related to the cross-cutting area of Human Performance. The chemistry technician failed to recognize that, in accordance with the Fire Protection Program, prompt notification to the control room is required when a fire is discovered.

The finding was more than minor because the failure to promptly report a fire prevents plant operators in the control room and other plant personnel from taking prompt and appropriate action pursuant to Fire Protection Program procedures. The resulting failure to implement the Fire Protection Program procedure on discovery of a fire degrades the facility's ability to meet the cornerstone objective of mitigating systems. Although not suitable for Significance Determination Process review, the finding was determined, by regional management, to be of very low safety significance in that (1) the finding did not affect the operability of the automatic fire detection and suppression systems in the affected fire zone, (2) the fire zone was outside of the vital area of the plant, and (3) the fire zone did not contain safe shutdown systems. Additionally, there was no identified damage to safety-related equipment due to the fire, and the fire was observed to be confined to an oven.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE RESTORATION OF IRM 'A'

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed during a reactor start-up on January 30, 2005, when the intermediate-range monitor (IRM) 'A' instrument was discovered to be inoperable after reactor criticality had been achieved. Prior to start-up, it had been established that IRM 'C' was inoperable. The inoperability of both IRM 'A' and IRM 'C' resulted in operability of less than the minimum required number of IRM channels per trip system of the reactor protection system (RPS) for Mode 2 operation. The licensee entered the appropriate Technical Specification action statement and, as required by licensee procedure, commenced a normal reactor shutdown. The primary cause of this finding was the failure to implement appropriate procedures during maintenance activities on IRM 'A'. A cable connection between the intermediate-range detector and the intermediate-range instrument was left loosely attached at the conclusion of the maintenance activity. This rendered the IRM 'A' instrument inoperable. Additionally, the maintenance procedure lacked appropriate acceptance criteria for determining that the maintenance had been satisfactorily accomplished. The primary cause of this finding was related to the cross-cutting area of Human Performance in that technicians failed to adequately attach and verify connection of the cable in the IRM 'A' system.

The finding was more than minor because it resulted in a reactor start-up and operation in Mode 2 with less than the required number of IRM trip function channels per RPS trip system. This degraded the plant's ability to meet the mitigating system cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, the finding resulted in an unplanned reactor shutdown. The finding was of very low safety significance because RPS trip capability was maintained due to designed redundancy in the system logic. The issue was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures covering the intermediate-range nuclear instrument system.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION AFTER IDENTIFYING THAT ERRONEOUS OR UNEXPLAINABLE DATA WAS RECORDED DURING TS REQUIRED TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on January 18, 2005. Specifically, the licensee failed to take prompt corrective action after identifying on January 17, 2005, that erroneous or unexplainable data was recorded during Technical Specification required emergency closed cooling water (ECCW) 'B' pump and valve operability testing. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. After the inspectors brought the issue to the attention of control room personnel, the licensee initiated action to re-code the surveillance as "no credit" based on suspect data. Action was also initiated to reschedule the surveillance prior to its overdue date of February 4, 2005. The licensee's subsequent performance of the surveillance test was not properly performed which resulted in a missed Technical Specification 5.5.6 surveillance and an additional 10 CFR 50, Appendix B, Criterion XVI violation was identified by the inspectors. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements.

The inspectors concluded that the failure of a system engineer, an engineering supervisor, and a senior reactor operator to take action to correct an identified condition adverse to quality was more than minor in that it could reasonably be viewed as a precursor to a significant event and, with respect to the performance of Technical Specification required surveillance testing, was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that ECCW 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance. Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATE CREW PERFORMANCE DURING ECCW TESTING

Inspectors identified a finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" on February 7, 2005. Specifically, the licensee failed to identify and correct a condition adverse to quality following the inspectors' identification, on January 18, 2005, of an improperly performed Technical Specification required surveillance. As a result of the licensee's failure to properly evaluate the January 5, 2005, performance deficiency and take appropriate corrective action, the surveillance test was again performed improperly on February 1, 2005. In addition to causing unnecessary safety system unavailability during repetitive performances of the procedure, the inadequate performance of the test on February 1, 2005, resulted in a missed Technical Specification 5.5.6 surveillance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. The test was performed correctly, with acceptable results, on February 5, 2005, to satisfy Technical Specification requirements. An apparent cause investigation was initiated to review surveillance performance issues.

The inspectors concluded that the failure of the licensee to adequately address performance issues with respect to a Technical Specification required surveillance procedure was more than minor in that it could reasonably be viewed as a precursor to a significant event and, in this case, resulted in a second improper performance and a missed Technical Specification surveillance. Additionally, the issue was associated with the reactor safety cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring mitigating system availability, reliability, and capability. The inspectors determined that the finding did not involve the loss of safety function in that emergency closed cooling water 'B' subsequently satisfactorily completed the required quarterly pump and valve operability test. The inspectors therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT ESTABLISHMENT OF FLOW PATH FROM SUPPRESSION POOL TO AUXILIARY BUILDING FLOOR DRAINS DURING RHR LLRT

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 27, 2005. Specifically, while performing a local leak rate test (LLRT) for the residual heat removal (RHR) 'A' suppression pool suction valve, 1E12-F004A, the valve was opened with the RHR 'A' system drained and vented. As a result, the suppression pool began draining through an open 8 inch drain valve and then overflowed to the auxiliary building floor. The draining was terminated within minutes when the valve was closed per the next step in the LLRT procedure.

The inspectors determined that inadvertent draining of the suppression pool to the auxiliary building floor was a performance deficiency warranting a significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. The inspectors determined that the finding: (1) did not increase the likelihood of a loss of reactor coolant system (RCS) inventory; (2) did not degrade the licensee's ability to terminate a leak path or add RCS inventory when needed; and (3) did not degrade the licensee's ability to recover decay heat removal if lost. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in a loss of suppression pool volume.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IMPLEMENTATION OF TS 3.4.10 FOR ALTERNATE HEAT DECAY REMOVAL

Inspectors identified a finding of very low safety significance for the licensee's failure to adequately implement Technical Specification 3.4.10 requirements for alternate decay heat removal methods as amended to the license during the Technical Specification improvement program to adopt Technical Specifications based on NUREG-1434 (Improved Standard Technical Specifications). The finding was considered to be a Non-Cited Violation of 10 CFR 50.36(c)(2)(I). The licensee has initiated action to install an alternate decay heat removal system.

The inspectors determined that the licensee's failure to adequately implement Technical Specification 3.4.10 was more than minor because it was directly associated with the mitigating system cornerstone objective of availability of a mitigating system. Although not suited for

Significance Determination Process review, the finding was determined to be of very low safety significance in that (1) the Mode 4 conditions were maintained by the inoperable, but running, RHR 'B' system and (2) the licensee maintained vacuum within the condenser to provide a method of decay heat removal had coolant temperature rose sufficiently to produce steam.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE GUIDANCE TO REFURBISH BREAKERS WITHIN VENDOR-SPECIFIED TIME FRAMES OR TO PROVIDE REASONABLE ALTERNATIVE PREVENTATIVE MAINTENANCE PRACTICES

The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation of Technical Specifications for inadequate safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to refurbish breakers within the vendor's specified time frames or provide reasonable alternative preventative maintenance practices to ensure that safety-related breakers remained operable.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specification Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The issue was entered into the licensee's corrective action program and is being evaluated under multiple condition reports (CR 05-0187, CR 05-00230, CR 05-00253, CR 05-00274, CR 05-00283, CR 05-00295, CR 05-00359, CR 05-00459).

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO INCORPORATE THE VENDOR'S GAP REQUIREMENTS INTO OPERATIONS MANUAL INSTRUCTIONS

The inspectors identified a finding having very low safety significance and associated Non-Cited Violation of Technical Specifications for inadequate procedures associated with safety-related breaker maintenance procedures. The inspectors determined that maintenance procedures for overhauling safety-related breakers were inappropriate, because they did not contain guidance to measure and monitor critical measurements identified by the vendor.

The finding was more than minor because the procedure quality attribute of the Mitigating Systems Cornerstone was affected when the licensee failed to evaluate industry and vendor recommended changes and incorporate the changes into their breaker maintenance procedures. The issue was of very low safety significance because the deficiency did not result in any loss of function; the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event; and because other plant-specific analyses that identify core damage scenarios of concern were not impacted. The finding was a Non-Cited Violation of Technical Specifications Section 5.4, and Regulatory Guide 1.33, for inadequate maintenance procedures. The finding was entered into the licensee's corrective action program and is being evaluated under condition reports CR 05-00364 and CR 05-00095.

Inspection Report# : [2005005\(pdf\)](#)

G

Significance: Feb 18, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO QUARANTINE EQUIPMENT AND PERFORM TROUBLESHOOTING WITHOUT FULL BENEFIT OF A TROUBLESHOOTING PLAN

A finding of very low significance was identified by the inspectors. The inspectors concluded that the licensee failed to quarantine equipment. The inspectors determined the failure to quarantine the motor feed pump (MFP) breaker cubicle impaired the licensee's ability to identify the associated failure mechanism for the January 6, 2005 failure of the MFP breaker to close. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the failure to quarantine the MFP breaker after the January 6, 2005 failure, if left uncorrected, could become a more significant safety concern. The finding affected the short term heat removal element of the Mitigating System Cornerstone and that the issue was not a design deficiency that resulted in a loss of function. The finding was of very low safety significance because the system was not a safety system and that the system was not a TS system. In addition, the finding did not represent an actual loss of safety function or equipment designed as risk-significant per 10 CFR 50.65 for greater than 24 hours, the finding was not risk significant due to a seismic, a flooding, or a severe weather initiating event, therefore the finding screened as Green. No violation of NRC requirements occurred.

Inspection Report# : [2005005\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CONTROL LOW PRESSURE TEST GAGES

A finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment" was self-revealed on May 6, 2005. Specifically, on April 30, 2005, with the plant in a cold shutdown condition, the licensee installed temporary test gages to the tailpiece of residual heat removal (RHR) test connection isolation valve E12-F059B and to the test connection on the low pressure side of leak detection system (LDS) differential pressure detector E31-N077B associated with the reactor water clean-up (RWCU) return to the feedwater system flow instrument. The gages were installed to support operability testing of RWCU check valve G33-F052B. Contrary to the Perry Problem Solving Plan associated with work order (WO) 200147914, operators failed to remove the test gages following testing and prior to plant start-up. On May 6, 2005, a non-licensed operator in the RHR 'A' room noted that the temporary gage connected downstream of E12-F059B was still installed. After an extent of condition review was performed by the licensee, a second gage installed in the RWCU/LDS was identified. The primary cause of the finding was related to the cross-cutting issue of Human Performance in that the gages were not removed per the WO procedure.

The inspectors determined that leaving low pressure (300 psig) rated test equipment installed in a system (RWCU) that experiences normal operating pressure conditions of approximately 1000 psi was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding only resulted in a degradation in the radiological barrier function of the Auxiliary Building and the finding did not result in an actual open pathway in the physical integrity of the reactor containment or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment.

Inspection Report# : [2005006\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

PERMANENT STRUCTURES IN CONTACT WITH CONTAINMENT WALL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to identify and correct numerous permanent structures (deck grating) that did not meet seismic separation distance requirements to the inside containment wall.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions all identified deficiencies were corrected and required seismic separation distances were restored.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS RWCU PCIV CLOSURE CONCERNs

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to promptly identify, and therefore correct in a timely manner, the condition of the reactor water cleanup (RWCU) primary containment isolation valves (PCIVs) inability to close when being secured from a normal RWCU valve lineup.

The team determined that the finding was of more than minor significance since the finding was associated with the reactor coolant system (RCS) equipment and barrier performance attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

To address this issue, licensee personnel initiated actions to improve the performance margin of the affected valves and review calculations to clarify the design and licensing basis.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct the previously identified condition of the RWCU PCIVs inability to close under all operating conditions.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFETY EVALUATION FOR THE NOBLECHEM™ PROCESS

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to perform an adequate safety evaluation review as required by 10 CFR 50.59 for changes made to the facility as described in the Updated Final Safety Analysis Report. The licensee initiated a NobleChem™ process, which involved deposition of noble metals on primary plant components, but failed to provide a basis for the determination that this change was acceptable without a license amendment. Specifically, the safety evaluation failed to address the impact of the NobleChem™ process on the fuel peak cladding temperature in a post loss-of-coolant accident environment due to catalytic action involving two exothermic reactions.

Because the Significance Determination Process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, this issue was dispositioned using the traditional enforcement process in accordance with Section IV of the NRC Enforcement Policy. However, the results of the violation, that is, the failure to fully evaluate the NobleChem™ process, were assessed using

the Significance Determination Process.

The inspectors considered this issue of more than minor significance, because the finding could have become a more significant safety concern in that, the licensee failed to demonstrate through a documented analysis that the integrity of fuel cladding was not affected by the NobleChemTM process. Because a subsequent vendor analysis adequately demonstrated the integrity of fuel cladding, it was determined that the licensee's failure to provide an adequate basis for the safety evaluation 01-0007 was an issue of very low safety significance and the violation of 10 CFR 50.59 was classified as a Severity Level IV Non-Cited Violation, consistent with the NRC Enforcement Policy. Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

DROPPED JET PUMP PLUG

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on February 28, 2005. Specifically, while removing a jet pump plug assembly from the reactor vessel, the plug broke loose from the handling pole and roped L-hook while being lifted over the refuel floor auxiliary platform. As a result, the plug dropped approximately 60 feet, primarily through water, and landed on top of several fuel bundles in the reactor core.

The inspectors determined that dropping a jet pump plug assembly, weighing approximately 25 pounds, onto the top of the reactor core was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the dropped plug was subsequently determined to not have caused damage to the fuel. The finding affected the cross-cutting issue of Human Performance because a personnel error caused the plug to be dropped.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT CONTROL ROD WITHDRAWAL

A finding of very low safety significance and a violation of Technical Specification 5.4 was self-revealed on March 10, 2005. Specifically, while attempting to verify the position of control rod 18-55, a senior reactor operator (SRO) inadvertently withdrew control rod 58-35 from position 00 to position 02. Upon recognition of the condition, the SRO took the Technical Specification required actions and immediately reinserted the control rod.

The inspectors determined that a personnel error that resulted in the inadvertent withdrawal of a control rod was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a significant event. Further, the finding was associated with the barrier integrity cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although not suitable for Significance Determination Process review, regional management determined that the finding was of very low safety significance because the rod movement had minimal impact of reactivity as evidenced by the lack of response by source range instrumentation and subsequent licensee shutdown margin assessment. Further, the error was immediately recognized and the control rod was inserted to position 00 in less than 15 seconds. Additionally, the SRO's use of the withdraw pushbutton self-limited the movement to one notch. The finding affected the cross-cutting issue of Human Performance because a personnel error resulted in an inadvertent step withdrawal of a control rod.

Inspection Report# : [2005002\(pdf\)](#)

Emergency Preparedness

Significance: SL-IV May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE USE OF HP TECHNICIAN AS INTERIM OSCC

A finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.54(q) was NRC-identified when licensee personnel failed to obtain prior NRC approval for a change to the Perry Emergency Plan concerning emergency response organization (ERO) staffing and response timeliness. Because the issue affected the NRC's ability to perform its regulatory function, it was processed through the traditional enforcement process and evaluated using the SDP.

Using IMC 0612, Appendix B, "Issue Dispositioning Screening," the inspectors determined that the finding was more than minor because it

was associated with the ERO readiness and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

The finding was considered to be of only very low safety significance since the period of vulnerability to the issue was short.

As part of the licensee's corrective actions, the issue was entered in the licensee's corrective action program for resolution as CR 05-03271. Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY IMPACT OF SECURITY PLAN CHANGE ON EMERGENCY PLAN

A finding of very low safety significance and an associated NCV of 10 CFR 50.47(b)(4) was NRC-identified when a change was made that adversely impacted Emergency Action Level (EAL) implementation. Specifically, a Security Plan revision implemented on November 8, 2005, eliminated terms from the Security Plan and Security Event Checklists, which adversely affected EAL classifications.

The team determined that the finding was of more than minor significance since the finding was associated with the ERO performance and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

Using IMC 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," and Sheet 1, "Emergency Preparedness Significance Determination Process - Failure to Comply," the team determined that this finding involved a planning standard problem, involved a risk-significant planning standard (RSPS) problem, did not result in a planning standard function failure, and did not result in a RSPS degraded function. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the licensee issued Security Operations Directive 05-0005 to require security personnel to use appropriate terms to communicate event information to the shift manager.

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Nov 19, 2004

Identified By: NRC

Item Type: VIO Violation

Failure to Perform Emergency Dose Assessment During an Alert Within 15 minutes Required by EAL HA1

The inspectors identified an apparent violation having preliminarily low-to-moderate safety significance when the licensee failed to follow the requirements of the Perry Emergency Plan during an Alert level event declared on July 20, 2004. During this event, the licensee staff failed to perform a Computer Aided Dose Assessment Program (CADAP) run within 15 minutes of the Alert declaration as required by the licensee's Emergency Plan.

The finding was determined to be greater than minor because it affected the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the issue was more than minor because it represented a failure to implement a regulatory requirement during a real event which could have prevented the correct emergency classification. The finding was preliminarily determined to be of low to moderate safety significance because the licensee failed to implement a risk significant planning standard (10 CFR 50.47(b)(4)) during an actual Alert emergency.

After considering the information developed during the inspection and the additional information provided in your January 26, 2005, letter, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2004016\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Inspection Report# : [2005007\(pdf\)](#)

Occupational Radiation Safety

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

CONTRACTORS IN HIGH RADIATION AREA WITHOUT REQUIRED PERMIT

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.1 was self-revealed when, in two separate

instances, contractor radiation workers were found inside posted high radiation areas without being signed on the appropriate radiation work permits for these areas. Specifically, in the first instance, on January 10, 2005, a contractor supervisor was observed inside a posted high radiation area/contaminated area without the required protective clothing. The individual was determined to be signed on a low risk radiation work permit for heater bay work. The individual did not receive the required high radiation area briefing for the turbine condenser bay area (a posted high radiation area) and was not signed on the required higher risk radiation work permit. In the second instance, on March 8, 2005, a radiation protection technician discovered two contractor radiation workers, that were signed on a low risk radiation work permit for work in the turbine heater bay, in a high radiation area and had not received the required high radiation area briefing for the residual heat removal heat exchanger room. The workers failed to sign off of the low risk radiation work permit and to sign on to the medium risk radiation work permit and did not obtain a radiation protection brief prior to entry into this room. Corrective actions taken by the licensee included restricting the individuals from the radiologically restricted area.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individuals failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: G Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ENTRY INTO A LOCKED HIGH RADIATION AREA WITHOUT REQUIRED RADIATION PROTECTION BRIEFING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.2 was self-revealed on March 31, 2005, when an operator working on a radiation work permit that did not permit entry into a locked high radiation area entered a posted locked high radiation area without having received the required radiation protection brief. The individual was tasked with performing a valve lineup on the N71 valve system in the turbine building catacombs. The N71 valve was located above a permanent valve platform that was posted and controlled as a locked high radiation area. Adjacent to the platform was scaffolding which provided access to a condenser man-way. The proximity of the scaffolding made it possible to access the permanent platform from the scaffolding platform. The individual ascended the scaffold to its platform, and while crossing to the permanent platform, was able to perform the required valve observation. After completing the task he stepped onto the permanent valve platform and noted a locked high radiation area posting. He exited the permanent platform via the temporary scaffolding that he originally used to access the area. Corrective actions taken by the licensee included restricting the individual from the radiologically restricted area for several days, counseling and coaching by radiation protection and operations management, and the individual prepared a job briefing sheet for co-workers.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individual failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

Public Radiation Safety

G

Significance: G May 26, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO ADEQUATELY ADDRESS ELEVATED DOSE RATE CONCERNs

A finding of very low safety significance was NRC-identified when licensee personnel failed to implement corrective actions to prevent recurrence of a significant condition adverse to quality in a timely manner. Specifically, corrective actions to investigate the organizational causes for elevated dose rates in Refueling Outage 9 (RFO9) failed to identify corrective actions to prevent recurrence. No violation of regulatory requirements occurred.

The team determined that the finding was of more than minor significance because, if left uncorrected, the finding would become a more significant safety concern. Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no safety-related equipment was rendered inoperable as a result of the performance deficiency.

This finding affected the cross-cutting area of Problem Identification and Resolution because the licensee failed to implement a corrective action to address a root cause of a condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : March 03, 2006

Perry 1

1Q/2006 Plant Inspection Findings

Initiating Events

G**Significance:** Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

AUTOMATIC ESF ACTUATION DUE TO UNTIMELY CORRECTIVE ACTIONS AND INEFFECTIVE INTERIM ACTIONS

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on August 12, 2005, when licensee personnel failed to promptly correct a condition adverse to quality. Specifically, on July 2, 2005, licensee personnel identified that the reactor water cleanup system valve nest room had elevated temperatures. Shortly thereafter, the licensee's problem solving team identified that a leak detection thermocouple was not providing an indication representative of actual room temperature due to its location. The improper placement of the thermocouple was not promptly corrected. The licensee failed to resolve the issue in a timely manner in that a reactor water cleanup system automatic isolation, an engineered safety feature actuation, occurred on August 12, 2005. Additionally, interim licensee actions to reduce room temperature, such as through securing a reactor water cleanup pump, had an adverse impact on plant performance in that the licensee concluded that the system manipulations induced a reactor water cleanup system leak on a non-regenerative heat exchanger vessel flange. The reactor water cleanup system was placed back in service on August 12, 2005, the thermocouple was relocated on August 14, 2005, and the heat exchanger vessel flange leak was stopped on September 6, 2005.

The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss-of-coolant-accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not promptly corrected.

Inspection Report# : [2005009\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: FIN Finding

UNTIMELY HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance for the licensee's failure to sufficiently coordinate and adequately prepare for the onset of hot weather prior to May 1, 2005. Specifically, the licensee failed to complete work associated with critical components, in accordance with established expectations that specified completion prior to April 30, 2005. As a result, critical tasks had not been completed prior to the onset of near record warm weather beginning June 5, 2005.

The inspectors determined that the issue was more than minor because, if left uncorrected, the finding would become a more significant safety concern. The finding was also associated with the reactor safety initiating events cornerstone and affected the cornerstone's objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because no safety-related functions or mitigating systems were rendered inoperable and no plant transient was initiated. No violation of NRC requirements occurred.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY THE EFFECT OF DEENERGIZING BUS K-1-D ON DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of 10 CFR 50.65(a)(4) was self-revealed during preparation for an electrical distribution panel F1F14 outage on April 4, 2005. The reactor was shutdown at the time of the event. Specifically, the licensee failed to identify the impact of planned breaker manipulations on the fuel pool cooling and cleanup (FPCC) system. Per an Operations Evolution Order, the K-1-D electrical bus was de-energized which de-energized the fuel pool filter demineralizer (FPFD) control panel, H51-P173. As a result, the demineralizer flow control valves shut. The flow control valve repositioned and reduced FPCC flow to the reactor cavity pool from 720 gpm to 520 gpm and flow to the spent fuel pool from 700 gpm to 600 gpm. At the time of the event, FPCC was the primary method of decay heat removal. Numerous alarms were received in the control room. Control room personnel assessed the transient and within 30 minutes opened the FPCC fuel pool filter demineralizer bypass valve to restore proper flow to the reactor pool and spent fuel pool. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to properly assess the impact of a planned

maintenance activity on a key shutdown safety function.

The finding was more than minor because the failure to identify the impact of the planned maintenance activity adversely affected a protected train of equipment providing the key shutdown safety function of decay heat removal. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it adversely affected the FPCC decay heat removal function. The finding was of very low safety significance because FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of 10 CFR 50.65(a)(4) which required the licensee to assess and manage the increase in risk that may result from proposed maintenance activities.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADVERTENT LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed during preparation for Division 2 loss of off-site power (LOOP) testing on April 5, 2005. The reactor was shutdown at the time of the event. Valves in the cooling water supply path to the FPCC system heat exchangers were unintentionally isolated. This resulted in loss of decay heat removal from the reactor pool and spent fuel pool for approximately two hours. Operators subsequently discovered the valves were out of position, restored the system to the correct lineup, and restored decay heat removal. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to implement procedures as written. Specifically, the licensee personnel performing the test preparations performed a procedure step out of sequence which resulted in the loss of cooling water to the FPCC heat exchangers.

The finding was more than minor because the failure to follow procedures resulted in a loss of cooling for the reactor pool and spent fuel pool for approximately two hours. The finding was associated with the reactor safety initiating events cornerstone attribute of configuration control, and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations in that it resulted in loss of FPCC decay heat removal function. The finding was of very low safety significance because the FPCC decay heat removal function was restored promptly on discovery and alternate decay heat removal systems remained available. The issue was a Non-Cited Violation of TS 5.4 which required the implementation of written surveillance test procedures.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES AFFECTING SAFETY-RELATED DIVISION 3 BREAKERS

A finding of very low safety significance and a violation of TS 5.4, "Procedures," was self-revealed on April 21, 2005. While the plant was shutdown for a refuel outage, the licensee conducted LOOP response testing of the Division 3 high pressure core spray (HPCS) emergency diesel generator (EDG). The procedure required the installation of a jumper between terminal points in the HPCS preferred source breaker cubicle, EH1303. Contrary to procedure, technicians installed the jumper in the alternate preferred source breaker cubicle EH1302. The error was identified when control room operators attempted to close breaker EH1302 and it did not close as expected. The jumper was subsequently removed from the EH1302 cubicle without consequence. The primary cause of this finding was related to the cross-cutting issue of Human Performance. Specifically, licensee technicians failed to perform the procedure as written and failed to use independent verification and, as a result, installed the jumper in the wrong cubicle.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. Additionally, if left uncorrected, the failure to follow procedures affecting safety-related equipment would become a more significant safety concern. The inspectors determined that the finding was of very low safety significance because the finding did not involve a loss of safety function.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS CONTROL ROD MOVEMENT CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to implement adequate corrective actions for root causes associated with a significant condition adverse to quality. Specifically, the licensee identified "management failures in identifying problems with reactivity control systems" as a root cause for unexpected control rod movement, however licensee corrective actions failed to address this issue.

The team determined that the finding was of more than minor significance since it could be reasonably viewed as a precursor to a more significant event. Specifically, the corrective action intended to address management's oversight of the reactivity control systems did not address the licensee's identified cause and did not cover all activities that involve significant rod movement such as short forced outages and control rod pattern changes.

Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no initiating event occurred.

As part of the licensee's corrective actions, Condition Report 03-05995 was previously generated to address organizational issues through the use of the Plant Health Committee, clarification of the roles and responsibilities of managers and directors, and to develop the Perry PII. Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS TRAINING DEVIATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct in a timely manner a condition adverse to quality regarding operators' failure to use required human performance error reduction tools during stressful situations. The finding was of more than minor significance because the finding could reasonably be viewed as a precursor to a significant event since the continued deviation from established procedures and training during stressful times had the potential to result in an initiating event or result in more significant consequence following an initiating event.

Using IMC 0609, "Significance Determination Process," the team determined that this finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, human performance tools were implemented which addressed the importance of procedure adherence during events and other stressful situations.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to take corrective actions to address a condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

Mitigating Systems

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

ADS and MSIV Air Accumulators Stress Analysis Deficiencies

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving an inadequate stress analysis performed for the automatic depressurization system (ADS) air accumulators. Specifically, the licensee failed to account for all the related stresses in the ADS accumulator stress analysis calculation. Inclusion of these additional stresses resulted in a higher stress than allowed by the American Society of Mechanical Engineers Code. Additionally, the accumulators' certification of design, as required by the Code, Section III, did not include the maximum design pressure, which resulted in the accumulators being non-conforming.

The finding was more than minor because the failure to adequately evaluate the design requirements of the accumulators could have led to structural failure of the tanks, which would have prevented the ADS valves from functioning as designed and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Non-conservative Safety-Related Air Storage Tank Sizing Calculation

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the sizing of the main steam isolation valve and automatic depressurization system (ADS) air storage tank. The inspectors identified that the licensee failed to correctly specify in a design calculation the required minimum differential air pressure required to actuate the ADS valves when manually operated. This resulted in a safety-related air system calculation that was non-conservative when determining the long-term air volume requirements in the air storage tank. The licensee's corrective actions included verifying that adequate design margin existed for the air tank capacity and entered this performance deficiency into their corrective action program for resolution.

The finding was more than minor because the failure to adequately evaluate air storage tank sizing could result in over-predicting the tank's

capacity as verified by the surveillance test's acceptance criteria (i.e., creating design margin capability that would not exist) and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedures for Controlling Flow into Reactor Vessel

The inspectors identified a Non-Cited Violation of Technical Specification Requirement 5.4.1, which requires, in part, that written procedures/instructions be established, implemented, and maintained covering the emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1. The anticipated transient without scram (ATWS) special plant instructions issued to provide for injection outside the shroud were inadequate because the procedures inappropriately limited the ability to control reactor water level (or reactor pressure if reactor water level is unknown). The licensee entered this performance deficiency into their corrective action program for resolution.

This finding was more than minor because the procedure deficiency affected the ability of the licensee to use the low pressure coolant injection sub-systems to prevent undesirable consequences of large power excursions associated with an ATWS, and was associated with the mitigating systems procedure quality attribute of the mitigating systems cornerstone objective. The finding was of very low safety significance because no actual initiating event or transient occurred and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE GEI-0009

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 19, 2006, when the inspectors identified during a safety-related breaker maintenance activity, that licensee personnel failed to perform required steps in procedure GEI-0009, "ABB Low Voltage Power Circuit Breaker Types K-600 & K-600S Through K-3000 & K-3000S Maintenance." Specifically, licensee personnel failed to perform required minimum operating voltage testing on the safety-related EF1A05 breaker that provided power to Division 1 Motor Control Center (MCC), Switchgear (SWGR), and Battery Room Supply Fan A. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of the licensee's corrective actions, an extent of condition review was conducted, which determined that no additional safety-related breakers were affected.

The inspectors concluded that the finding was more than minor in accordance with example 4.1 in IMC 0612, Appendix E, "Examples of Minor Issues," since the subject breaker was subsequently determined to be out of specification. This issue was also associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007\(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE ICI-B12-0001

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 10, 2006, when the inspectors observed during a calibration check of a Division III Emergency Diesel Generator (EDG) Exhaust Air Damper, that licensee personnel failed to perform required steps prescribed by procedure ICI-B12-0001, "ITT NH90 Series Milliamper Proportional/On-Off Hydramotor Actuator Calibration." The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of their corrective actions, licensee personnel revised ICI-B12-0001 to clarify the requirements of the procedure.

This finding was more than minor because it was associated with the Mitigating System cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007\(pdf\)](#)**G****Significance:** Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL OIL PUMP PROCEDURES RESULTED IN DIVISION 2 EDG UNABAILABILITY

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed during Division 2 Emergency Diesel Generator (EDG) post-maintenance testing on September 15, 2005, when the engine-driven fuel oil pump was discovered air bound after licensee personnel failed to implement appropriate procedures for the fill and vent of the pump suction and discharge lines following pump maintenance activities. As a result of operating the pump for about 40 minutes without proper fuel oil flow, the engine-driven fuel oil pump required replacement, which extended the Division 2 EDG maintenance outage by about 24 hours and incurred about 15 hours of unnecessary unavailability. As part of their corrective actions, the licensee removed the EDG from service, replaced the engine-driven fuel oil pump, and successfully re-tested the EDG on September 16, 2005. The primary cause of this finding was related to the cross-cutting area of Human Performance since licensee personnel failed to develop an appropriate fill and vent procedure for the engine-driven fuel oil pump.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)**G****Significance:** Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE OIL RESERVOIR MAINTENANCE PROCEDURE IMPLEMENTATION FOR ECC 'B' PUMP RESULTED IN OIL LEAK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on October 30, 2005, when licensee personnel failed to develop an appropriate procedure for the replacement of the 'B' Emergency Closed Cooling (ECC) pump oil bearing reservoir, which resulted in an oil leak and unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 1, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to develop appropriate oil reservoir maintenance procedures.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)**G****Significance:** Dec 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT AN OIL RESERVOIR MAINTENANCE PROCEDURE ISSUE RESULTED IN ECC 'A' OIL LEAK

A finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on November 19, 2005, when licensee personnel failed to promptly correct a condition adverse to quality associated with the development of appropriate procedures for oil reservoir replacement, which resulted in an oil leak on the 'A' ECC pump, incurring unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 29, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct an inadequate oil reservoir maintenance procedure in a timely manner.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a

system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: Oct 28, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT ONLINE WORK MANAGEMENT PRACTICES THAT RESULTED IN UNNECESSARILY HIGH SAFETY SYSTEM UNAVAILABILITY

The inspector identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality. Specifically, the licensee failed to correct a condition of inadequate online maintenance management that adversely affected safety system availability. In the second quarter of 2000, the heat removal system unavailability performance indicator crossed the Green-to-White threshold due to inadequate online work management, which led to high safety system unavailability. Between the years 2000 and 2004, the licensee identified on several occasions that safety system unavailability was higher than the industry average and that the station lacked an adequate process to balance online maintenance with safety system unavailability. Additionally, poor work management processes were noted to unnecessarily extend maintenance activities and adversely affect safety system availability. In the second quarter of 2004, the residual heat removal safety system unavailability performance indicator crossed the Green-to-White threshold. The licensee again identified that inadequate online maintenance management and generally higher than industry average safety system unavailability were primary contributing causes. Licensee corrective actions included management of safety system unavailability to 50 percent of the NRC Green-to-White threshold and work management improvements. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, since a condition adverse to quality was not corrected in a timely manner.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, from 2000 to 2004, the failure to promptly correct the condition of inadequate management of online work adversely affected safety system availability. The inspector determined that the finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005012\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT BORON LEAKAGE FROM THE STANDBY LIQUID CONTROL STORAGE TANK HEATER FLANGE

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality in a timely manner. Specifically, licensee personnel identified and documented on seven occasions from June 2002 through February 2005, boron accumulation on the standby liquid control system storage tank heater flange. In each instance the issue was identified as a "condition adverse to quality." The inspectors identified additional documentation of leakage and boron accumulation in the flange area dating back to April 28, 1997. As of July 29, 2005, the condition adverse to quality had not been corrected. The licensee entered the "untimely resolution of a condition adverse to quality" into their corrective action program and confirmed for the inspectors that the issue was included in the next planned refueling outage for resolution.

The finding was more than minor because, if left uncorrected, the finding would become a more significant safety concern. Specifically, the failure to repair the degraded flange connection allowed a condition to exist that could lead to increased leakage or premature failure of the connection. Further, as noted on multiple licensee condition reports, the leakage had on occasion migrated to other levels of containment which if left uncorrected could result in other adverse consequences. The inspectors determined that the finding (1) did not involve a loss of safety function and (2) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors therefore concluded that the finding was of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not corrected in a timely manner.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO EVALUATE INTERFERENCE WITH THE DESIGN RATTLE SPACE BETWEEN SAFETY CLASS BUILDINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to control deviations from design standards. On July 22, 2005, while performing a fire protection inspection in the intermediate building, the inspectors noted that a large storage cage (approximately 900 square feet in area and 10 feet high) was constructed in such a way that it interfered with the design rattle space between the containment shield building and the intermediate building column supports at several locations. The steel used to brace the cage directly communicated the containment shield building to the columns that supported the intermediate building. The inspectors reported the observation to the licensee and the licensee corrected the condition the same day. The primary cause of this finding was the failure to properly control deviations from design standards. The design seismic analysis of the building structures credited the rattle space in lieu of further analysis of the interaction between building structures; therefore, the interference of this space was not consistent with the design basis.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences in that it placed safety-related building structures in an unanalyzed condition. The inspectors determined that the safety functions of the buildings were maintained and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: **G** Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE SATISFACTORY MAINTENANCE ON THE RHR CONTAINMENT SPRAY ISOLATION VALVE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed when residual heat removal containment spray isolation valve 1E12F028B failed to indicate open in the control room as expected during quarterly surveillance testing on June 25, 2005 due to inadequate maintenance. Operators declared the valve inoperable and isolated the associated penetration flow path for the valve in accordance with Technical Specification 3.6.1.3. This resulted in the unavailability of residual heat removal 'B' low pressure core injection and containment spray modes of operation. Subsequent visual inspection and electrical checks by licensee technicians revealed inadequate electrical connections in the electrical panel associated with the valve. The connections were repaired and the availability of residual heat removal 'B' low pressure core injection and containment spray was restored. The primary cause of this finding was the failure to promptly identify and correct conditions adverse to quality during maintenance associated with the valve actuator motor replacement that was performed in March 2005.

The finding was more than minor because it was associated with the reactor safety mitigating systems cornerstone attribute of equipment performance, and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable events. Specifically, the failure to identify the inadequate electrical connections following maintenance in the panel subsequently resulted in a failed control room indication on June 25, 2005, which caused operators to isolate the associated penetration flow path for the valve. This resulted in the unavailability of the residual heat removal 'B' low pressure core injection and containment spray modes of operation for about nine hours. The inspectors determined that the finding was of very low safety significance because the equipment safety function was not lost for greater than the Technical Specification allowed outage time. The primary cause of this finding was associated with the cross-cutting area of Problem Identification and Resolution, subcategory identification, in that improperly fastened electrical connections affecting a safety-related valve were not promptly identified.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: **G** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE PROPER REASSEMBLY OF DIVISION 1 ESW PUMP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on March 2, 2005, during disassembly of the Division 1 emergency service water pump. Specifically, the licensee failed to provide adequate guidance in General Maintenance Instruction 0039, "Disassembly/Assembly of the Emergency Service Water Pumps," Revision 8, to ensure that the lineshaft sleeve spiro pins were adequately staked during pump assembly in May 2004. Due to the improper assembly, the pump's lineshaft sleeve spiro pins were found, in March 2005, to be extruded and sheared. Fortunately, the pins galled to the shaft and the lineshaft sleeve remained in place. As a result, no actual loss of safety function occurred. The licensee's corrective actions included a procedure revision and subsequent pump repair.

The finding was more than minor because, if left uncorrected, the failure to implement appropriate procedures for safety-related pump maintenance activities could reasonably be viewed as a precursor for a more significant event as evidenced by two previous Division I emergency service water pump failures in September 2003 and May 2004. The inspectors determined that the finding was of very low safety significance because there was no loss of safety function. The finding affected the cross-cutting area of Human Performance, subcategory organization, because licensee personnel failed to establish appropriate procedures.

Inspection Report# : [2005009\(pdf\)](#)

G**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT INADEQUATELY THREADED BOLTS ON RHR 'B'/'C' WATERLEG PUMP

The inspectors identified a finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify the inadequate thread engagement of two bolts on the residual heat removal (RHR) 'B'/'C' waterleg pump discharge flange. Inspectors identified the non-conforming condition during a walkdown of the RHR 'C' system while RHR 'C' was designated as the primary water inventory source for the shutdown reactor. Inspectors promptly reported the condition to the licensee and the licensee entered it into the corrective action program. The licensee performed corrective maintenance to fix the inadequate thread engagement on May 19, 2005. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. The failure to identify and correct inadequate thread engagement on bolted connections could allow premature failure and leakage from the connection. Additionally, the finding was associated with the reactor safety mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to identify and correct non-conforming conditions on safety-related equipment degrades the reliability of the system to perform its safety function. The inspectors determined that the finding did not involve the loss of safety function and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE DESIGN REVIEW FOR TESTABLE RUPTURE DISK MODIFICATION

A finding of very low safety significance and a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on February 17, 2005, when the Division 2 EDG testable rupture disc (TRD) required excess force to lift during surveillance testing. A newly designed Division 2 TRD had been installed in October 2004 in an effort to address long-standing equipment performance issues. A similar design was installed on the Division 1 EDG in November 2004 and on the Division 3 EDG in April 2004. After the test failure on February 17, 2005, subsequent licensee inspection identified that the disc was warped. Due to potential common cause issues, the licensee declared all three EDGs inoperable and entered TS Limiting Condition for Operation (LCO) 3.0.3. The licensee unlatched all EDG TRDs to restore operability. The licensee's design review for the TRD did not adequately consider the potential for and the effect of deformation of the TRD disc due to heat. Additionally, the licensee's testing of the design modification was determined to be inadequate. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensee personnel failed to perform an adequate design review.

The finding was more than minor because it affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of the EDGs in response to initiating events. Specifically, if the TRD failed to lift at the appropriate pressure, excessive back-pressure would adversely affect fuel consumption rates. Further, if the TRD failed to open with the normal EDG exhaust blocked, conditions could be established which would result in stalling of the EDG. The finding was determined to be of very low safety significance because Significance Determination Process Phase 3 analysis determined the issue to not be greater than Green due to the low frequency of seismic and tornado events.

Inspection Report# : [2005006\(pdf\)](#)**Significance: SL-IV** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

UNREPORTED SAFETY-SYSTEM UNAVAILABILITY FOR RHR

The inspectors identified a Severity Level IV Non-Cited Violation associated with the failure to report residual heat removal (RHR) train 'B' unavailability from May 29, 2004, through June 3, 2004, while the emergency service water train 'B' was inoperable for pump repairs. The second quarter 2004 data reported to the NRC included RHR 'A' unavailability following failure of the ESW 'A' pump on May 21, 2004, but did not include the subsequent RHR 'B' unavailability. Prior to removing the ESW 'B' pump from service, the licensee developed a reactor pressure vessel feed and bleed method which they subsequently credited as an alternate decay heat removal system when calculating RHR system unavailability. The inspectors, however, reviewed the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, and could not conclude that the licensee's method met the "NRC approved method of decay heat removal." Due to the inspectors' concerns, the licensee submitted a "Frequently Asked Question." On May 19, 2005, the NRC determined that "NRC approval means a specific method or methods described in the technical specifications." As a result, the licensee recalculated and resubmitted RHR system unavailability on June 17, 2005. Had the performance indicator (PI) data been properly reported in the second quarter of 2004, the PI color would have been White. The failure to properly report the PI was considered a Severity Level IV Non-Cited Violation of 10 CFR 50.9.

Inspection Report# : [2005006\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SLC RELIEF VALVE TEST FAILURES

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to prevent repetition of a condition adverse to quality. Specifically, the standby liquid control (SLC) system pump discharge pressure relief valves failed to satisfy American Society of Mechanical Engineers (ASME) acceptance criteria for 6 of 10 in-service tests (ISTs) conducted over the last 20 years. On two occasions, in 1989 and 2001, the as-found relief valve condition would have prevented the SLC system from being able to perform its intended design function to mitigate an Anticipated Transient Without Scram (ATWS) event, coincident with a main steam isolation valve (MSIV) closure.

The finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that because this finding represented an actual loss of a safety function of one train of the system, a Phase 2 SDP analysis was required. In the Phase 2 SDP assessment, the ATWS event worksheet was reviewed as specified by the Perry Plant Risk-Informed Inspection Notebook. The dominant core damage sequence was an ATWS event, followed by a loss of the SLC system. The Phase 2 SDP assessment determined that this finding was of very low safety significance (Green) because 1 of 2 SLC pumps remained available.

As part of the licensee's immediate corrective actions, licensee personnel compared the as-left setpoints for the currently installed relief valves to a design setpoint value, and ensured that an adequate margin existed for the SLC relief valves to adequately perform their safety function.

This finding affected the cross-cutting area of Problem Identification and Resolution since licensee personnel did not adequately evaluate prior SLC relief valve as-found test failures.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self-Revealing

Item Type: FIN Finding

DRYWELL SUPPLY FAN TRIPS DUE TO INADEQUATE MAINTENANCE

A finding of very low safety significance was self-revealed when repetitive drywell supply fan failures occurred due to inadequate maintenance and inadequate corrective actions to address a previous failure due to an identical root cause. No violation of regulatory requirements occurred.

The finding was of more than minor significance since the finding could reasonably be viewed as a precursor to a more significant event since identically designed fans existed in other risk-significant plant systems and a failure of those fans, under similar circumstances, could have also occurred.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected fan was repaired and an extent of condition review was performed.

This finding affected the cross-cutting area of Problem Identification and Resolution since the finding involved inadequate corrective actions to address a previous failure.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS LPCS/RHR 'A' AIR-BINDING

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when the licensee's corrective actions following air-binding of the low-pressure core spray (LPCS)/RHR 'A' waterleg pump failed to identify that high point vent valves were omitted from venting procedures which had the potential to render the reactor core isolation cooling (RCIC) system inoperable, as discussed in prior operating experience information.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single

train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the affected high point vent was added to the licensee's venting procedures and the affected piping was verified to be properly vented and filled with water.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to perform an adequate extent of condition review for high point vent valves omitted from venting procedures.

Inspection Report# : [2005003\(pdf\)](#)

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS MOV STEM LUBRICATION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel continued to use "Never-Seez" in safety-related motor-operated valve (MOV) applications although industry operating experience identified that "Never-Seez" was not an adequate MOV stem lubricant. As a result, over a 10-year period, licensee personnel deferred MOV stem lubricant replacement while multiple MOVs failed as-found test acceptance criteria and exhibited accelerated stem nut wear.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all affected safety-related valves were scheduled to have their stem lubrication changed by the end of RFO10 (May 2005).

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to resolve a known condition adverse to quality in a timely manner.

Inspection Report# : [2005003\(pdf\)](#)

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCESS DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to At-Risk-Change (ARC) procedures used for the modification of safety-related equipment without a completed and approved modification package.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all modification work associated with the ARC process was suspended until all cognizant personnel were provided training.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately address implementation of the ARC process until questioned by the team.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS DIVISION 2 EDG OIL LEAK CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to repair a long-standing Division 2 EDG lubricating oil cooler packing leak that was identified in November 2000, until May 2004 when the leak degraded and required emergent maintenance, rendering the EDG unavailable.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the leak was repaired and the Division 2 EDG was returned to service.

This finding affected the cross-cutting area of Problem Identification and Resolution because station personnel missed several opportunities to implement repairs.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS SCAFFOLDING ERECTION CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct an issue regarding the installation of scaffolding erected near safety-related equipment which did not meet the seismic bracing or clearance criteria of licensee procedures.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of equipment that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, all scaffolding work was suspended and licensee personnel were required to obtain engineering approval of all scaffolding erections.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to follow both the scaffolding erection procedure and the temporary alterations procedure. This finding also affected the cross-cutting area of Problem Identification and Resolution because a condition adverse to quality regarding scaffolding controls was not corrected, despite numerous opportunities.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS EDG DESIGN CONCERN

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately address a nonconforming condition in the design of the EDGs which made the EDGs vulnerable to damage in response to a loss of offsite power (LOOP) signal under certain scenarios.

The team determined that the finding was of more than minor significance since the finding was associated with the design control and equipment performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification

deficiency confirmed not to result in a loss of function per Generic Letter 91-18; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, an engineering change to modify the EDG start circuitry was initiated.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a previously identified condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ECCW OILER CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to adequately review available industry operating experience information and failed to identify degraded oil reservoirs that could adversely impact the operability of both Emergency Closed Cooling Water (ECCW) pumps.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, a walkdown of all potentially affected oil reservoirs was conducted and the reservoirs were verified to be able to properly provide makeup oil to all potentially affected pump bearings.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to adequately resolve a known industry problem associated with improper reservoir installation.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS ESW COUPLING ASSEMBLY CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to correct a condition adverse to quality identified in IR 05000440/2004008 regarding an NCV for the failure to properly inspect the re-assembly of ESW pump couplings. During this inspection, the team identified that licensee corrective actions to address this issue were inadequate and again failed to prescribe an appropriate inspection of the ESW pump couplings during re-assembly.

The finding was of more than minor significance since the finding could be reasonably viewed as a precursor to a significant event. Specifically, the licensee failed to perform required inspections for the installation of mechanical equipment and this failure contributed to a previous ESW pump failure that was determined to be a White finding. The team noted that for both ESW pump failures, the pumps had satisfied post-maintenance testing acceptance criteria. Further, the team noted that improvements in quality control could have detected the conditions that led to premature pump failure. Specifically, inspections could have detected the misalignment of the coupling that led to the first pump failure and improved quality control of parts could have prevented the second failure.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its Technical Specification (TS) allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, this issue was entered into the CAP.

This finding affected the cross-cutting area of Problem Identification and Resolution because the finding was associated with the licensee's failure to adequately address a significant condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

G**Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS BREAKER TESTING CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to initiate a condition report to correct a condition adverse to quality following an error in the performance of a safety-related breaker overcurrent device calibration procedure step.

The team determined that the finding was of more than minor significance because the ineffective implementation of procedure steps by maintenance, if left uncorrected, could become a more significant safety concern since safety-related equipment may not be properly tested, reassembled, or maintained.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, procedure steps were re-performed, and the breaker was re-tested satisfactorily.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to generate a condition report to identify a condition adverse to quality which adversely impacted the licensee's ability to take effective corrective actions to address the issue.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH ARC PROCEDURE DURING EDG MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was NRC-identified when licensee personnel failed to adhere to ARC procedures used for the modification of safety-related equipment and modified a portion of the Division 1, 2, and 3 EDG exhaust ventilation system without declaring the ventilation system unavailable, as required.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions the EDGs were declared inoperable until the modification was removed.

This finding affected the cross-cutting area of Human Performance since licensee personnel failed to adhere to the ARC procedure associated with the modification activities.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 26, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL DISCONNECT STATUS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when licensee personnel improperly performed a procedure step for verification of the position of RCIC system electrical disconnects.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification

deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical disconnects were properly positioned.

This finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to procedure steps for aligning RCIC system electrical disconnects.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPERLY PERFORMED VERIFICATION OF ELECTRICAL JUMPER REMOVAL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when maintenance personnel incorrectly performed a procedure step which verified that electrical jumpers had been removed from an electrical cabinet and as a result, inadvertently left an electrical jumper installed in the cabinet.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control and human performance attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the electrical jumper that was inadvertently left in the affected electrical cabinet was removed.

This finding affected the cross-cutting area of Human Performance because licensee personnel performed an incorrect procedure step which verified that electrical jumpers had been removed from an electrical cabinet.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TESTING FOLLOWING "HOT SHORT" MODIFICATIONS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to verify that the isolation function of the remote shutdown panel (RSP) emergency transfer switch was operable after a modification re-wired the switch and placed a previously unused set of contacts in the isolation circuit.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The severity of the deficiency was determined to have a low degradation rating, because the reliability of the system function impacted by the finding was not significant. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, licensee personnel verified the adequacy of the design modification through the performance of a suitable test.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE SAFE SHUTDOWN MOV DESIGN CHANGE ASSESSMENT

A finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), "Fire Protection," was NRC-identified when licensee personnel revised the fire protection program to use manual actions for replacing fuses for safe post-fire shutdown, but

did not adequately assess the ability to perform the actions and did not verify or validate that adequate time was available to perform the actions.

The team determined that the finding was of more than minor significance since the finding was associated with the design control, equipment performance, and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," the team reviewed the finding against the Phase 1 Qualitative Screening criteria. The Phase 1 screening determined that a Phase 2 evaluation was required because the severity of the deficiency was determined to have a moderate degradation rating. The Phase 2 evaluation determined this finding was of very low safety significance, because no potentially challenging fire scenarios were developed.

As part of the licensee's immediate corrective actions, procedures were revised to add the affected fuses to the remote shutdown inventory and provide guidance regarding fuse replacement.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CONSIDER ENVIRONMENTAL IMPACT ON TRD MODIFICATION

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was NRC-identified when licensee personnel failed to adequately evaluate the effect of water intrusion on the insulation composite installed in the EDG exhaust enclosure during modification activities.

The team determined that the finding was of more than minor significance since the finding was associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding was a design deficiency or qualification deficiency confirmed not to result in a loss of safety function per Generic Letter 91-18. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, engineering personnel re-calculated expected concrete temperatures, taking into account wetted insulation, and verified that the EDG exhaust enclosure remained operable.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A MAINTENANCE PREVENTABLE FUNCTIONAL FAILURE

A finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(1), associated with the requirements for monitoring the effectiveness of maintenance, was identified when licensee personnel failed to establish appropriate goals and monitor the performance of the Division 2 EDG when the demonstration of effective control of performance of the EDG through appropriate preventive maintenance became invalid following a lube oil heat exchanger gasket failure.

The team determined that the finding was of more than minor significance since the finding was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) was not a design deficiency or qualification deficiency; 2) did not represent an actual loss of safety function of a system; 3) did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time; 4) did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk significant; and 5) did not screen as potentially risk significant due to seismic, flooding, or a severe weather initiating event. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's corrective actions, licensee personnel planned to discuss this issue with industry peers and determine whether the criteria used to categorize one of the EDG performance issues as a Maintenance Preventable Functional Failure was consistently understood and accepted.

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

G

Significance: Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CONTROL LOW PRESSURE TEST GAGES

A finding of very low safety significance and a violation of 10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment" was self-revealed on May 6, 2005. Specifically, on April 30, 2005, with the plant in a cold shutdown condition, the licensee installed temporary test gages to the tailpiece of residual heat removal (RHR) test connection isolation valve E12-F059B and to the test connection on the low pressure side of leak detection system (LDS) differential pressure detector E31-N077B associated with the reactor water clean-up (RWCU) return to the feedwater system flow instrument. The gages were installed to support operability testing of RWCU check valve G33-F052B. Contrary to the Perry Problem Solving Plan associated with work order (WO) 200147914, operators failed to remove the test gages following testing and prior to plant start-up. On May 6, 2005, a non-licensed operator in the RHR 'A' room noted that the temporary gage connected downstream of E12-F059B was still installed. After an extent of condition review was performed by the licensee, a second gage installed in the RWCU/LDS was identified. The primary cause of the finding was related to the cross-cutting issue of Human Performance in that the gages were not removed per the WO procedure.

The inspectors determined that leaving low pressure (300 psig) rated test equipment installed in a system (RWCU) that experiences normal operating pressure conditions of approximately 1000 psi was a performance deficiency warranting significance evaluation. The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding only resulted in a degradation in the radiological barrier function of the Auxiliary Building and the finding did not result in an actual open pathway in the physical integrity of the reactor containment or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment.

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

PERMANENT STRUCTURES IN CONTACT WITH CONTAINMENT WALL

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to identify and correct numerous permanent structures (deck grating) that did not meet seismic separation distance requirements to the inside containment wall.

The team determined that the finding was of more than minor significance since the finding was associated with the configuration control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions all identified deficiencies were corrected and required seismic separation distances were restored.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY ADDRESS RWCU PCIV CLOSURE CONCERNS

A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was NRC-identified when licensee personnel failed to promptly identify, and therefore correct in a timely manner, the condition of the reactor water cleanup (RWCU) primary containment isolation valves (PCIVs) inability to close when being secured from a normal RWCU valve lineup.

The team determined that the finding was of more than minor significance since the finding was associated with the reactor coolant system (RCS) equipment and barrier performance attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

Using IMC 0609, "Significance Determination Process," the team determined that this finding 1) did not represent a degradation of the radiological barrier function of the control room, auxiliary building, spent fuel pool, or annulus exhaust gas treatment system; 2) did not represent a degradation of the barrier function of the control room against smoke or toxic gas; 3) did not represent an actual open pathway in the physical integrity of the containment; and 4) did not involve an actual reduction in the defense-in-depth for the atmospheric pressure control or the hydrogen control functions of containment. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

To address this issue, licensee personnel initiated actions to improve the performance margin of the affected valves and review calculations to clarify the design and licensing basis.

This finding affected the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct the previously identified condition of the RWCU PCIVs inability to close under all operating conditions.

Inspection Report# : [2005003\(pdf\)](#)

Emergency Preparedness

Significance: SL-IV May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE USE OF HP TECHNICIAN AS INTERIM OSCC

A finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.54(q) was NRC-identified when licensee personnel failed to obtain prior NRC approval for a change to the Perry Emergency Plan concerning emergency response organization (ERO) staffing and response timeliness. Because the issue affected the NRC's ability to perform its regulatory function, it was processed through the traditional enforcement process and evaluated using the SDP.

Using IMC 0612, Appendix B, "Issue Dispositioning Screening," the inspectors determined that the finding was more than minor because it was associated with the ERO readiness and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

The finding was considered to be of only very low safety significance since the period of vulnerability to the issue was short.

As part of the licensee's corrective actions, the issue was entered in the licensee's corrective action program for resolution as CR 05-03271.
Inspection Report# : [2005003\(pdf\)](#)

G

Significance: May 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY IMPACT OF SECURITY PLAN CHANGE ON EMERGENCY PLAN

A finding of very low safety significance and an associated NCV of 10 CFR 50.47(b)(4) was NRC-identified when a change was made that adversely impacted Emergency Action Level (EAL) implementation. Specifically, a Security Plan revision implemented on November 8, 2005, eliminated terms from the Security Plan and Security Event Checklists, which adversely affected EAL classifications.

The team determined that the finding was of more than minor significance since the finding was associated with the ERO performance and procedure quality attributes of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

Using IMC 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," and Sheet 1, "Emergency Preparedness Significance Determination Process - Failure to Comply," the team determined that this finding involved a planning standard problem, involved a risk-significant planning standard (RSPS) problem, did not result in a planning standard function failure, and did not result in a RSPS degraded function. Therefore, the finding screened as Green and was considered to be of only very low safety significance.

As part of the licensee's immediate corrective actions, the licensee issued Security Operations Directive 05-0005 to require security personnel to use appropriate terms to communicate event information to the shift manager.

Inspection Report# : [2005003\(pdf\)](#)

Occupational Radiation Safety

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

CONTRACTORS IN HIGH RADIATION AREA WITHOUT REQUIRED PERMIT

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.1 was self-revealed when, in two separate instances, contractor radiation workers were found inside posted high radiation areas without being signed on the appropriate radiation work permits for these areas. Specifically, in the first instance, on January 10, 2005, a contractor supervisor was observed inside a posted high radiation area/contaminated area without the required protective clothing. The individual was determined to be signed on a low risk radiation work permit for heater bay work. The individual did not receive the required high radiation area briefing for the turbine condenser bay area (a posted high radiation area) and was not signed on the required higher risk radiation work permit. In the second instance, on March 8, 2005, a radiation protection technician discovered two contractor radiation workers, that were signed on a low risk radiation work permit for work in the turbine heater bay, in a high radiation area and had not received the required high radiation area briefing for the residual heat removal heat exchanger room. The workers failed to sign off of the low risk radiation work permit and to sign on to the medium risk radiation work permit and did not obtain a radiation protection brief prior to entry into this room. Corrective actions taken by the licensee included restricting the individuals from the radiologically restricted area.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individuals failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ENTRY INTO A LOCKED HIGH RADIATION AREA WITHOUT REQUIRED RADIATION PROTECTION BRIEFING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.2 was self-revealed on March 31, 2005, when an operator working on a radiation work permit that did not permit entry into a locked high radiation area entered a posted locked high

radiation area without having received the required radiation protection brief. The individual was tasked with performing a valve lineup on the N71 valve system in the turbine building catacombs. The N71 valve was located above a permanent valve platform that was posted and controlled as a locked high radiation area. Adjacent to the platform was scaffolding which provided access to a condenser man-way. The proximity of the scaffolding made it possible to access the permanent platform from the scaffolding platform. The individual ascended the scaffold to its platform, and while crossing to the permanent platform, was able to perform the required valve observation. After completing the task he stepped onto the permanent valve platform and noted a locked high radiation area posting. He exited the permanent platform via the temporary scaffolding that he originally used to access the area. Corrective actions taken by the licensee included restricting the individual from the radiologically restricted area for several days, counseling and coaching by radiation protection and operations management, and the individual prepared a job briefing sheet for co-workers.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individual failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

Public Radiation Safety



Significance: May 26, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO ADEQUATELY ADDRESS ELEVATED DOSE RATE CONCERNS

A finding of very low safety significance was NRC-identified when licensee personnel failed to implement corrective actions to prevent recurrence of a significant condition adverse to quality in a timely manner. Specifically, corrective actions to investigate the organizational causes for elevated dose rates in Refueling Outage 9 (RFO9) failed to identify corrective actions to prevent recurrence. No violation of regulatory requirements occurred.

The team determined that the finding was of more than minor significance because, if left uncorrected, the finding would become a more significant safety concern. Although not suited for SDP evaluation, the finding was determined to be of very low safety significance because no safety-related equipment was rendered inoperable as a result of the performance deficiency.

This finding affected the cross-cutting area of Problem Identification and Resolution because the licensee failed to implement a corrective action to address a root cause of a condition adverse to quality.

Inspection Report# : [2005003\(pdf\)](#)

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : May 25, 2006

Perry 1

2Q/2006 Plant Inspection Findings

Initiating Events

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY COMPLETE HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance when licensee personnel failed to complete tasks designed to prepare equipment for operation during high temperature conditions by March 30, 2006. The finding also affected the cross-cutting area of Human Performance because the licensee organization failed to effectively coordinate, plan, and schedule completion of summer preparation activities prior to the onset of hot weather.

This finding was more than minor because it was associated with the protection against external factors attribute of the initiating events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. No violation of NRC requirements occurred.

Inspection Report# : [2006003\(pdf\)](#)**G****Significance:** Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

AUTOMATIC ESF ACTUATION DUE TO UNTIMELY CORRECTIVE ACTIONS AND INEFFECTIVE INTERIM ACTIONS

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on August 12, 2005, when licensee personnel failed to promptly correct a condition adverse to quality. Specifically, on July 2, 2005, licensee personnel identified that the reactor water cleanup system valve nest room had elevated temperatures. Shortly thereafter, the licensee's problem solving team identified that a leak detection thermocouple was not providing an indication representative of actual room temperature due to its location. The improper placement of the thermocouple was not promptly corrected. The licensee failed to resolve the issue in a timely manner in that a reactor water cleanup system automatic isolation, an engineered safety feature actuation, occurred on August 12, 2005. Additionally, interim licensee actions to reduce room temperature, such as through securing a reactor water cleanup pump, had an adverse impact on plant performance in that the licensee concluded that the system manipulations induced a reactor water cleanup system leak on a non-regenerative heat exchanger vessel flange. The reactor water cleanup system was placed back in service on August 12, 2005, the thermocouple was relocated on August 14, 2005, and the heat exchanger vessel flange leak was stopped on September 6, 2005.

The inspectors determined that the issue was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a loss-of-coolant-accident initiator; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available; and (3) did not increase the likelihood of a fire or internal/external flooding. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not promptly corrected.

Inspection Report# : [2005009\(pdf\)](#)

Mitigating Systems

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A TESTING DEFICIENCY AFFECTING A REACTOR CORE ISOLATION COOLING REMOTE SHUTDOWN SYSTEM FUNCTION

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," following a review of Licensee Event Report 05000440/2006-001-00, "Incorrect Wiring in the Remote Shutdown Panel Results in a Fire Protection Program Violation," which identified that licensee personnel failed to correct a test deficiency associated with the remote shutdown circuit in a timely manner. The test deficiency was identified on September 9, 2003. The licensee corrected a wiring error and adequately tested the circuit on January 17, 2006. As part of their corrective actions, in addition to correcting the wiring error, licensee personnel

performed an extent of condition review, which did not identify any additional wiring errors. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to appropriately evaluate the significance of the issue when the test deficiency was identified and therefore failed to appropriately prioritize and implement corrective actions in a timely manner.

This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding affected the reliability of the reactor core isolation cooling system during a control room fire scenario. The finding was determined through a Significance Determination Process Phase 3 analysis to be of very low safety significance due, in large part, to the low initiating event frequency of fires in the main control room as well as the availability of other mitigating systems.

Inspection Report# : [2006003\(pdf\)](#)

Significance: **G** Apr 01, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW MAINTENACE PROCEDURES FOR ELECTRICAL EQUIPMENT VENTILATION FAN MOTOR WHEN VIBRATION LEVELS EXCEEDED ALERT CRITERIA

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on February 11, 2006, when licensee personnel failed to adhere to predictive maintenance program procedures after "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan vibration levels exceeded predictive maintenance program alert criteria on September 29, 2005. As part of their immediate corrective actions, licensee personnel completed repairs to the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system on March 3, 2006. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to predictive maintenance program procedures after a degraded condition was identified.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the failure to adhere to predictive maintenance program procedures on September 29, 2005, resulted in an unaddressed and unmonitored degraded fan motor condition, led to the fan motor failure, and resulted in a small fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected and the fire did not result in any personnel injuries or damage to other equipment.

Inspection Report# : [2006002\(pdf\)](#)

Significance: **G** Apr 01, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW BELT TENSIONING MAINTENANCE PROCEDURES FOR ELECTRICAL EQUIPMENT VENTILATION FAN MOTOR

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," when licensee personnel failed to adhere to maintenance procedures during "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train maintenance and did not establish the required drive belt tension between the return fan and motor prior to returning the train to service. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to maintenance procedures affecting safety-related equipment.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, a previous failure to adhere to procedures associated with this fan motor contributed to the failure of the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train that resulted in a fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected.

Inspection Report# : [2006002\(pdf\)](#)

Significance: **G** Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

ADS and MSIV Air Accumulators Stress Analysis Deficiencies

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving an inadequate stress analysis performed for the automatic depressurization system (ADS) air accumulators. Specifically, the licensee failed to account for all the related stresses in the ADS accumulator stress analysis calculation. Inclusion of these additional stresses resulted in a higher stress than allowed by the American Society of Mechanical Engineers Code. Additionally, the accumulators' certification of design, as required by the Code, Section III, did not include the maximum design pressure, which resulted in the accumulators being non-conforming.

The finding was more than minor because the failure to adequately evaluate the design requirements of the accumulators could have led to structural failure of the tanks, which would have prevented the ADS valves from functioning as designed and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Non-conservative Safety-Related Air Storage Tank Sizing Calculation

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the sizing of the main steam isolation valve and automatic depressurization system (ADS) air storage tank. The inspectors identified that the licensee failed to correctly specify in a design calculation the required minimum differential air pressure required to actuate the ADS valves when manually operated. This resulted in a safety-related air system calculation that was non-conservative when determining the long-term air volume requirements in the air storage tank. The licensee's corrective actions included verifying that adequate design margin existed for the air tank capacity and entered this performance deficiency into their corrective action program for resolution.

The finding was more than minor because the failure to adequately evaluate air storage tank sizing could result in over-predicting the tank's capacity as verified by the surveillance test's acceptance criteria (i.e., creating design margin capability that would not exist) and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedures for Controlling Flow into Reactor Vessel

The inspectors identified a Non-Cited Violation of Technical Specification Requirement 5.4.1, which requires, in part, that written procedures/instructions be established, implemented, and maintained covering the emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1. The anticipated transient without scram (ATWS) special plant instructions issued to provide for injection outside the shroud were inadequate because the procedures inappropriately limited the ability to control reactor water level (or reactor pressure if reactor water level is unknown). The licensee entered this performance deficiency into their corrective action program for resolution.

This finding was more than minor because the procedure deficiency affected the ability of the licensee to use the low pressure coolant injection subsystems to prevent undesirable consequences of large power excursions associated with an ATWS, and was associated with the mitigating systems procedure quality attribute of the mitigating systems cornerstone objective. The finding was of very low safety significance because no actual initiating event or transient occurred and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE GEI-0009

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 19, 2006, when the inspectors identified during a safety-related breaker maintenance activity, that licensee personnel failed to perform required steps in procedure GEI-0009, "ABB Low Voltage Power Circuit Breaker Types K-600 & K-600S Through K-3000 & K-3000S Maintenance." Specifically, licensee personnel failed to perform required minimum operating voltage testing on the safety-related EF1A05 breaker that provided power to Division 1 Motor Control Center (MCC), Switchgear (SWGR), and Battery Room Supply Fan A. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of the licensee's corrective actions, an extent of condition review was conducted, which determined that no additional safety-related breakers were affected.

The inspectors concluded that the finding was more than minor in accordance with example 4.1 in IMC 0612, Appendix E, "Examples of Minor Issues," since the subject breaker was subsequently determined to be out of specification. This issue was also associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007\(pdf\)](#)

G

Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE ICI-B12-0001

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 10, 2006, when the inspectors observed during a calibration check of a Division III Emergency Diesel Generator (EDG) Exhaust Air Damper, that licensee personnel failed to perform required steps prescribed by procedure ICI-B12-0001, "ITT NH90 Series Milliampere Proportional/On-Off Hydramotor Actuator Calibration." The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of their corrective actions, licensee personnel revised ICI-B12-0001 to clarify the requirements of the procedure.

This finding was more than minor because it was associated with the Mitigating System cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007\(pdf\)](#)**G**

Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL OIL PUMP PROCEDURES RESULTED IN DIVISION 2 EDG UNAVAILABILITY

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed during Division 2 Emergency Diesel Generator (EDG) post-maintenance testing on September 15, 2005, when the engine-driven fuel oil pump was discovered air bound after licensee personnel failed to implement appropriate procedures for the fill and vent of the pump suction and discharge lines following pump maintenance activities. As a result of operating the pump for about 40 minutes without proper fuel oil flow, the engine-driven fuel oil pump required replacement, which extended the Division 2 EDG maintenance outage by about 24 hours and incurred about 15 hours of unnecessary unavailability. As part of their corrective actions, the licensee removed the EDG from service, replaced the engine-driven fuel oil pump, and successfully re-tested the EDG on September 16, 2005. The primary cause of this finding was related to the cross-cutting area of Human Performance since licensee personnel failed to develop an appropriate fill and vent procedure for the engine-driven fuel oil pump.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)**G**

Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE OIL RESERVOIR MAINTENANCE PROCEDURE IMPLEMENTATION FOR ECC 'B' PUMP RESULTED IN OIL LEAK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on October 30, 2005, when licensee personnel failed to develop an appropriate procedure for the replacement of the 'B' Emergency Closed Cooling (ECC) pump oil bearing reservoir, which resulted in an oil leak and unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 1, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to develop appropriate oil reservoir maintenance procedures.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Dec 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT AN OIL RESERVOIR MAINTENANCE PROCEDURE ISSUE RESULTED IN ECC 'A' OIL LEAK

A finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on November 19, 2005, when licensee personnel failed to promptly correct a condition adverse to quality associated with the development of appropriate procedures for oil reservoir replacement, which resulted in an oil leak on the 'A' ECC pump, incurring unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 29, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct an inadequate oil reservoir maintenance procedure in a timely manner.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)**G**

Oct 28, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT ONLINE WORK MANAGEMENT PRACTICES THAT RESULTED IN UNNECESSARILY HIGH SAFETY SYSTEM UNAVAILABILITY

The inspector identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality. Specifically, the licensee failed to correct a condition of inadequate online maintenance management that adversely affected safety system availability. In the second quarter of 2000, the heat removal system unavailability performance indicator crossed the Green-to-White threshold due to inadequate online work management, which led to high safety system unavailability. Between the years 2000 and 2004, the licensee identified on several occasions that safety system unavailability was higher than the industry average and that the station lacked an adequate process to balance online maintenance with safety system unavailability. Additionally, poor work management processes were noted to unnecessarily extend maintenance activities and adversely affect safety system availability. In the second quarter of 2004, the residual heat removal safety system unavailability performance indicator crossed the Green-to-White threshold. The licensee again identified that inadequate online maintenance management and generally higher than industry average safety system unavailability were primary contributing causes. Licensee corrective actions included management of safety system unavailability to 50 percent of the NRC Green-to-White threshold and work management improvements. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, since a condition adverse to quality was not corrected in a timely manner.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, from 2000 to 2004, the failure to promptly correct the condition of inadequate management of online work adversely affected safety system availability. The inspector determined that the finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005012\(pdf\)](#)**G**

Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT BORON LEAKAGE FROM THE STANDBY LIQUID CONTROL STORAGE TANK HEATER FLANGE

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality in a timely manner. Specifically, licensee personnel identified and documented on seven occasions from June 2002 through February 2005, boron accumulation on the standby liquid control system storage tank heater flange. In each instance the issue was identified as a "condition adverse to quality." The inspectors identified additional documentation of leakage and boron accumulation in the flange area dating back to April 28, 1997. As of July 29, 2005, the condition adverse to quality had not been corrected. The licensee entered the "untimely resolution of a condition adverse to quality" into their corrective action program and confirmed for the inspectors that the issue was included in the next planned refueling outage for resolution.

The finding was more than minor because, if left uncorrected, the finding would become a more significant safety concern. Specifically, the failure to repair the degraded flange connection allowed a condition to exist that could lead to increased leakage or premature failure of the connection. Further, as noted on multiple licensee condition reports, the leakage had on occasion migrated to other levels of containment which if left uncorrected could result in other adverse consequences. The inspectors determined that the finding (1) did not involve a loss of safety function and (2) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors therefore concluded that the finding was of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, in that the condition adverse to quality was not corrected in a timely manner.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO EVALUATE INTERFERENCE WITH THE DESIGN RATTLE SPACE BETWEEN SAFETY CLASS BUILDINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to control deviations from design standards. On July 22, 2005, while performing a fire protection inspection in the intermediate building, the inspectors noted that a large storage cage (approximately 900 square feet in area and 10 feet high) was constructed in such a way that it interfered with the design rattle space between the containment shield building and the intermediate building column supports at several locations. The steel used to brace the cage directly communicated the containment shield building to the columns that supported the intermediate building. The inspectors reported the observation to the licensee and the licensee corrected the condition the same day. The primary cause of this finding was the failure to properly control deviations from design standards. The design seismic analysis of the building structures credited the rattle space in lieu of further analysis of the interaction between building structures; therefore, the interference of this space was not consistent with the design basis.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences in that it placed safety-related building structures in an unanalyzed condition. The inspectors determined that the safety functions of the buildings were maintained and therefore concluded that the finding was of very low safety significance.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE SATISFACTORY MAINTENANCE ON THE RHR CONTAINMENT SPRAY ISOLATION VALVE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed when residual heat removal containment spray isolation valve 1E12F028B failed to indicate open in the control room as expected during quarterly surveillance testing on June 25, 2005 due to inadequate maintenance. Operators declared the valve inoperable and isolated the associated penetration flow path for the valve in accordance with Technical Specification 3.6.1.3. This resulted in the unavailability of residual heat removal 'B' low pressure core injection and containment spray modes of operation. Subsequent visual inspection and electrical checks by licensee technicians revealed inadequate electrical connections in the electrical panel associated with the valve. The connections were repaired and the availability of residual heat removal 'B' low pressure core injection and containment spray was restored. The primary cause of this finding was the failure to promptly identify and correct conditions adverse to quality during maintenance associated with the valve actuator motor replacement that was performed in March 2005.

The finding was more than minor because it was associated with the reactor safety mitigating systems cornerstone attribute of equipment performance, and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable events. Specifically, the failure to identify the inadequate electrical connections following maintenance in the panel subsequently resulted in a failed control room indication on June 25, 2005, which caused operators to isolate the associated penetration flow path for the valve. This resulted in the unavailability of the residual heat removal 'B' low pressure core injection and containment spray modes of operation for about nine hours. The inspectors determined that the finding was of very low safety significance because the equipment safety function was not lost for greater than the Technical Specification allowed outage time. The primary cause of this finding was associated with the cross-cutting area of Problem Identification and Resolution, subcategory identification, in that improperly fastened electrical connections affecting a safety-related valve were not promptly identified.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT PROCEDURES TO ENSURE PROPER REASSEMBLY OF DIVISION 1 ESW PUMP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on March 2, 2005, during disassembly of the Division 1 emergency service water pump. Specifically, the licensee failed to provide adequate guidance in General Maintenance Instruction 0039, "Disassembly/Assembly of the Emergency Service Water Pumps," Revision 8, to ensure that the lineshaft sleeve

spiro pins were adequately staked during pump assembly in May 2004. Due to the improper assembly, the pump's lineshaft sleeve spiro pins were found, in March 2005, to be extruded and sheared. Fortunately, the pins galled to the shaft and the lineshaft sleeve remained in place. As a result, no actual loss of safety function occurred. The licensee's corrective actions included a procedure revision and subsequent pump repair.

The finding was more than minor because, if left uncorrected, the failure to implement appropriate procedures for safety-related pump maintenance activities could reasonably be viewed as a precursor for a more significant event as evidenced by two previous Division I emergency service water pump failures in September 2003 and May 2004. The inspectors determined that the finding was of very low safety significance because there was no loss of safety function. The finding affected the cross-cutting area of Human Performance, subcategory organization, because licensee personnel failed to establish appropriate procedures.

Inspection Report# : [2005009\(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

CONTRACTORS IN HIGH RADIATION AREA WITHOUT REQUIRED PERMIT

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.1 was self-revealed when, in two separate instances, contractor radiation workers were found inside posted high radiation areas without being signed on the appropriate radiation work permits for these areas. Specifically, in the first instance, on January 10, 2005, a contractor supervisor was observed inside a posted high radiation area/contaminated area without the required protective clothing. The individual was determined to be signed on a low risk radiation work permit for heater bay work. The individual did not receive the required high radiation area briefing for the turbine condenser bay area (a posted high radiation area) and was not signed on the required higher risk radiation work permit. In the second instance, on March 8, 2005, a radiation protection technician discovered two contractor radiation workers, that were signed on a low risk radiation work permit for work in the turbine heater bay, in a high radiation area and had not received the required high radiation area briefing for the residual heat removal heat exchanger room. The workers failed to sign off of the low risk radiation work permit and to sign on to the medium risk radiation work permit and did not obtain a radiation protection brief prior to entry into this room. Corrective actions taken by the licensee included restricting the individuals from the radiologically restricted area.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individuals failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

G

Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ENTRY INTO A LOCKED HIGH RADIATION AREA WITHOUT REQUIRED RADIATION PROTECTION BRIEFING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.7.2 was self-revealed on March 31, 2005, when an operator working on a radiation work permit that did not permit entry into a locked high radiation area entered a posted locked high radiation area without having received the required radiation protection brief. The individual was tasked with performing a valve lineup on the N71 valve system in the turbine building catacombs. The N71 valve was located above a permanent valve platform that was posted and controlled as a locked high radiation area. Adjacent to the platform was scaffolding which provided access to a condenser man-way. The proximity of the scaffolding made it possible to access the permanent platform from the scaffolding platform. The individual ascended the scaffold to its platform, and while crossing to the permanent platform, was able to perform the required valve observation. After completing the task he stepped onto the permanent valve platform and noted a locked high radiation area posting. He exited the permanent platform via the temporary scaffolding that he originally used to access the area. Corrective actions taken by the licensee included restricting the individual from the radiologically restricted area for several days, counseling and coaching by radiation protection and operations management, and the individual prepared a job briefing sheet for co-workers.

The finding was more than minor because the finding was associated with the human performance attribute of the occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning or controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The primary cause of this finding was related to the cross-cutting area of Human Performance, subcategory personnel, in that the individual failed to follow licensee procedures.

Inspection Report# : [2005009\(pdf\)](#)

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : August 25, 2006

Perry 1

3Q/2006 Plant Inspection Findings

Initiating Events

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY COMPLETE HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance when licensee personnel failed to complete tasks designed to prepare equipment for operation during high temperature conditions by March 30, 2006. The finding also affected the cross-cutting area of Human Performance because the licensee organization failed to effectively coordinate, plan, and schedule completion of summer preparation activities prior to the onset of hot weather.

This finding was more than minor because it was associated with the protection against external factors attribute of the initiating events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. No violation of NRC requirements occurred.

Inspection Report# : [2006003\(pdf\)](#)

Mitigating Systems

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A TESTING DEFICIENCY AFFECTING A REACTOR CORE ISOLATION COOLING REMOTE SHUTDOWN SYSTEM FUNCTION

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," following a review of Licensee Event Report 05000440/2006-001-00, "Incorrect Wiring in the Remote Shutdown Panel Results in a Fire Protection Program Violation," which identified that licensee personnel failed to correct a test deficiency associated with the remote shutdown circuit in a timely manner. The test deficiency was identified on September 9, 2003. The licensee corrected a wiring error and adequately tested the circuit on January 17, 2006. As part of their corrective actions, in addition to correcting the wiring error, licensee personnel performed an extent of condition review, which did not identify any additional wiring errors. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to appropriately evaluate the significance of the issue when the test deficiency was identified and therefore failed to appropriately prioritize and implement corrective actions in a timely manner.

This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding affected the reliability of the reactor core isolation cooling system during a control room fire scenario. The finding was determined through a Significance Determination Process Phase 3 analysis to be of very low safety significance due, in large part, to the low initiating event frequency of fires in the main control room as well as the availability of other mitigating systems.

Inspection Report# : [2006003\(pdf\)](#)**G****Significance:** Mar 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW MAINTENACE PROCEDURES FOR ELECTRICAL EQUIPMENT VENTILATION FAN MOTOR WHEN VIBRATION LEVELS EXCEEDED ALERT CRITERIA

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on February 11, 2006, when licensee personnel failed to adhere to predictive maintenance program procedures after "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan vibration levels exceeded predictive maintenance program alert criteria on September 29, 2005. As part of their immediate corrective actions, licensee personnel completed repairs to the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system on March 3, 2006. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to predictive maintenance program procedures after a degraded condition was identified.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the failure to adhere to predictive maintenance program procedures on September 29, 2005, resulted in an unaddressed and unmonitored degraded fan motor condition, led to the fan motor failure, and resulted in a small fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected and the fire did not result in any personnel injuries or damage to other equipment.

Inspection Report# : [2006002\(pdf\)](#)

G

Significance: Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW BELT TENSIONING MAINTENANCE PROCEDURES FOR ELECTRICAL EQUIPMENT VENTILATION FAN MOTOR

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," when licensee personnel failed to adhere to maintenance procedures during "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train maintenance and did not establish the required drive belt tension between the return fan and motor prior to returning the train to service. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to maintenance procedures affecting safety-related equipment.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, a previous failure to adhere to procedures associated with this fan motor contributed to the failure of the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train that resulted in a fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected.

Inspection Report# : [2006002\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

ADS and MSIV Air Accumulators Stress Analysis Deficiencies

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving an inadequate stress analysis performed for the automatic depressurization system (ADS) air accumulators. Specifically, the licensee failed to account for all the related stresses in the ADS accumulator stress analysis calculation. Inclusion of these additional stresses resulted in a higher stress than

allowed by the American Society of Mechanical Engineers Code. Additionally, the accumulators' certification of design, as required by the Code, Section III, did not include the maximum design pressure, which resulted in the accumulators being non-conforming.

The finding was more than minor because the failure to adequately evaluate the design requirements of the accumulators could have led to structural failure of the tanks, which would have prevented the ADS valves from functioning as designed and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Non-conservative Safety-Related Air Storage Tank Sizing Calculation

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the sizing of the main steam isolation valve and automatic depressurization system (ADS) air storage tank. The inspectors identified that the licensee failed to correctly specify in a design calculation the required minimum differential air pressure required to actuate the ADS valves when manually operated. This resulted in a safety-related air system calculation that was non-conservative when determining the long-term air volume requirements in the air storage tank. The licensee's corrective actions included verifying that adequate design margin existed for the air tank capacity and entered this performance deficiency into their corrective action program for resolution.

The finding was more than minor because the failure to adequately evaluate air storage tank sizing could result in over-predicting the tank's capacity as verified by the surveillance test's acceptance criteria (i.e., creating design margin capability that would not exist) and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedures for Controlling Flow into Reactor Vessel

The inspectors identified a Non-Cited Violation of Technical Specification Requirement 5.4.1, which requires, in part, that written procedures/instructions be established, implemented, and maintained covering the emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1. The anticipated transient without scram (ATWS) special plant instructions issued to provide for injection outside the shroud were inadequate because the procedures inappropriately limited the ability to control reactor water level (or reactor pressure if reactor water level is unknown). The licensee entered this performance deficiency into their corrective action program for resolution.

This finding was more than minor because the procedure deficiency affected the ability of the licensee to use the low pressure coolant injection sub-systems to prevent undesirable consequences of large power excursions associated with an ATWS, and was associated with the mitigating systems procedure quality attribute of the mitigating systems cornerstone objective. The finding was of very low safety significance because no actual initiating event or transient occurred and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009\(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE GEI-0009

A finding of very low safety significance and an associated non-cited violation of Technical Specification

5.4, "Procedures," was identified on January 19, 2006, when the inspectors identified during a safety-related breaker maintenance activity, that licensee personnel failed to perform required steps in procedure GEI-0009, "ABB Low Voltage Power Circuit Breaker Types K-600 & K-600S Through K-3000 & K-3000S Maintenance." Specifically, licensee personnel failed to perform required minimum operating voltage testing on the safety-related EF1A05 breaker that provided power to Division 1 Motor Control Center (MCC), Switchgear (SWGR), and Battery Room Supply Fan A. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of the licensee's corrective actions, an extent of condition review was conducted, which determined that no additional safety-related breakers were affected.

The inspectors concluded that the finding was more than minor in accordance with example 4.1 in IMC 0612, Appendix E, "Examples of Minor Issues," since the subject breaker was subsequently determined to be out of specification. This issue was also associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007\(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE ICI-B12-0001

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 10, 2006, when the inspectors observed during a calibration check of a Division III Emergency Diesel Generator (EDG) Exhaust Air Damper, that licensee personnel failed to perform required steps prescribed by procedure ICI-B12-0001, "ITT NH90 Series Milliampere Proportional/On-Off Hydramotor Actuator Calibration." The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of their corrective actions, licensee personnel revised ICI-B12-0001 to clarify the requirements of the procedure.

This finding was more than minor because it was associated with the Mitigating System cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007\(pdf\)](#)

G

Significance: Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL OIL PUMP PROCEDURES RESULTED IN DIVISION 2 EDG UNAVAILABILITY

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed during Division 2 Emergency Diesel Generator (EDG) post-maintenance testing on September 15, 2005, when the engine-driven fuel oil pump was discovered air bound after licensee personnel failed to implement appropriate procedures for the fill and vent of the pump suction and discharge lines following pump maintenance activities. As a result of operating the pump for about 40 minutes without proper fuel oil flow, the engine-driven fuel oil pump required replacement, which extended the Division 2 EDG maintenance outage by about 24 hours and incurred about 15 hours of unnecessary unavailability. As part of their corrective actions, the licensee removed the EDG from service, replaced the engine-driven fuel oil pump, and successfully re-tested the EDG on September 16, 2005. The

primary cause of this finding was related to the cross-cutting area of Human Performance since licensee personnel failed to develop an appropriate fill and vent procedure for the engine-driven fuel oil pump.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: Dec 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE OIL RESERVOIR MAINTENANCE PROCEDURE IMPLEMENTATION FOR ECC 'B' PUMP RESULTED IN OIL LEAK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on October 30, 2005, when licensee personnel failed to develop an appropriate procedure for the replacement of the 'B' Emergency Closed Cooling (ECC) pump oil bearing reservoir, which resulted in an oil leak and unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 1, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to develop appropriate oil reservoir maintenance procedures.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: Dec 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECT AN OIL RESERVOIR MAINTENANCE PROCEDURE ISSUE RESULTED IN ECC 'A' OIL LEAK

A finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed on November 19, 2005, when licensee personnel failed to promptly correct a condition adverse to quality associated with the development of appropriate procedures for oil reservoir replacement, which resulted in an oil leak on the 'A' ECC pump, incurring unnecessary pump unavailability. As part of their corrective actions, licensee personnel completed repairs to the pump on November 29, 2005, which included establishing a correct reservoir height and performing post-maintenance testing with satisfactory results. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to correct an inadequate oil reservoir maintenance procedure in a timely manner.

This finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety

significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005010\(pdf\)](#)

G

Significance: G Oct 28, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT ONLINE WORK MANAGEMENT PRACTICES THAT RESULTED IN UNNECESSARILY HIGH SAFETY SYSTEM UNAVAILABILITY

The inspector identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to correct a condition adverse to quality. Specifically, the licensee failed to correct a condition of inadequate online maintenance management that adversely affected safety system availability. In the second quarter of 2000, the heat removal system unavailability performance indicator crossed the Green-to-White threshold due to inadequate online work management, which led to high safety system unavailability. Between the years 2000 and 2004, the licensee identified on several occasions that safety system unavailability was higher than the industry average and that the station lacked an adequate process to balance online maintenance with safety system unavailability. Additionally, poor work management processes were noted to unnecessarily extend maintenance activities and adversely affect safety system availability. In the second quarter of 2004, the residual heat removal safety system unavailability performance indicator crossed the Green-to-White threshold. The licensee again identified that inadequate online maintenance management and generally higher than industry average safety system unavailability were primary contributing causes. Licensee corrective actions included management of safety system unavailability to 50 percent of the NRC Green-to-White threshold and work management improvements. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, subcategory corrective action, since a condition adverse to quality was not corrected in a timely manner.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, from 2000 to 2004, the failure to promptly correct the condition of inadequate management of online work adversely affected safety system availability. The inspector determined that the finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2005012\(pdf\)](#)

W

Significance: W Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005\(pdf\)](#)

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : December 21, 2006

Perry 1

4Q/2006 Plant Inspection Findings

Initiating Events

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY COMPLETE HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance when licensee personnel failed to complete tasks designed to prepare equipment for operation during high temperature conditions by March 30, 2006. The finding also affected the cross-cutting area of Human Performance because the licensee organization failed to effectively coordinate, plan, and schedule completion of summer preparation activities prior to the onset of hot weather.

This finding was more than minor because it was associated with the protection against external factors attribute of the initiating events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. No violation of NRC requirements occurred.

Inspection Report# : [2006003 \(pdf\)](#)

Mitigating Systems

G**Significance:** Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE SIMULATOR FIDELITY FOR STEADY STATE OPERATIONS

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 55.46, "Simulation Facilities," when licensee personnel failed to adhere to simulator fidelity requirements prescribed by ANSI/ANS-3.5-1998 for annual steady-state operation testing. Specifically, the licensee failed to provide adequate documentation that demonstrated that heat balance testing was performed and evaluated annually as required. The finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to thoroughly evaluate the simulator model limitations to address extent of condition concerns. The reviews and analyses did not fully analyze the impacts of simulator model limitations on previous testing or identify that some test results were not documented. The correction of the simulator model limitations was expected to be accomplished by a simulator model upgrade, scheduled for completion in July 2007.

The failure to evaluate and document simulator performance testing was more than minor because it affected the Mitigating Systems cornerstone and did not meet the requirements of 10 CFR 55.46 because of the realistic potential of providing negative training based on significant simulator deficiencies compared to the plant. The finding was considered to be of very low safety significance because it involved simulator fidelity and the simulator did not meet the performance requirements of 10 CFR 55.46 and had the potential to impact operator actions.

Inspection Report# : [2006005 \(pdf\)](#)**G****Significance:** Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT DEGRADED CONDITION OF THE REACTOR RECIRCULATION

PUMP CO2 SYSTEM

The inspectors identified a finding of very low safety significance and an associated non-cited violation of License Condition C(6) for the failure to promptly correct the long-term recurring condition of insufficient CO2 tank level that was required to support the operability of the reactor recirculation pump CO2 system. The inspectors noted the reactor recirculation pumps' CO2 system did not meet fire protection requirements on several occasions since 2001 due to the same failure mechanism. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to take appropriate corrective actions to address the recurring condition of low tank level in a timely manner. As part of their immediate corrective actions, the licensee restored tank CO2 level to restore system operability and performed maintenance on the CO2 tank to stop the CO2 leak.

This finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because of safety functions that were assumed to remain available in the event of a reactor recirculation pump fire even though the finding was assigned a high degradation rating due to inadequate agent concentration required for deep seated fires.

Inspection Report# : [2006005 \(pdf\)](#)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: FIN Finding

MINIMUM PUMP FLOW SETTING NOT SUFFICIENT FOR UNLIMITED OPERATION

The inspectors identified a finding of very low safety significance associated with the minimum flow settings for the high pressure core spray, low pressure core spray, and residual heat removal pumps. Bulletin 88-04 identified that many pump minimum flow values were too low because they did not account for flow instability concerns. The inspectors identified that when licensee personnel addressed this operating experience item, they failed to properly verify the minimum flow settings with the pump manufacturer in accordance with the bulletin. The licensee's corrective actions included having the manufacturer perform a new analysis, which concluded that the existing minimum flow settings did not allow continuous operation of the pumps, and provided a monitoring and maintenance schedule based on the minimum flow values in order to promptly detect degradation. This performance deficiency was entered into the licensee's corrective action program for resolution. No violation of NRC requirements was identified.

This finding represented a performance deficiency because the licensee did not verify with the manufacturer that the minimum flow settings for these safety-related pumps were acceptable. The finding was more than minor because these pumps were operated since original plant start-up with an increased potential for unusual wear and aging without establishing increased monitoring and maintenance, or other compensatory actions and, therefore, was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and impacted the cornerstone objective of ensuring the availability and reliability of safety-related pumps. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the Significant Determination Process Phase 1 screening worksheet.

Inspection Report# : [2006005 \(pdf\)](#)

G

Significance: Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to provide full electrical isolation in the design of the post-fire safe shutdown control logic circuitry

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.L.3, having very low safety significance (Green), for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for Emergency Service Water Pump Discharge Shutoff Valve 1P45F0130A, did not have a transfer switch isolation contact provided, that would open to isolate main control room (MCR) fire-induced electrical faults when transferring controls to the remote shutdown location. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform an extensive evaluation of the associated circuitry and cables, to contact the panel's vendor, and other BWR6 plants, and to perform an extent of condition review. The licensee entered the issue into the corrective action program as CR 06-11399.

The finding was more than minor because it was associated with the mitigating systems cornerstone attribute of protection against external factors (fire) and had the potential to impact the mitigating systems cornerstone objective of ensuring the capability of systems, that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. Using Part 1 of the Inspection Manual Chapter 0609, fire protection Significance Determination Process Phase 1 Worksheet, the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a MCR fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screens as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy (Section 1R05.4). The cause of the finding related to cross-cutting aspect of problem identification and resolution.

Inspection Report# : [2006006 \(pdf\)](#)

G

Significance: G Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to evaluate the floor drain capacity in the division 1 and 2 cable spreading rooms

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) having very low safety significance (Green) for failing to implement and maintain in effect all provisions of the approved fire protection program as described in section 9A.5, D.1.(i) of the Updated Safety Analysis Report (USAR). The USAR stated that floor drains were designed to remove the expected fire fighting water flow from areas where fixed fire suppression systems were installed or where a fire hose may be used. The team identified that the licensee failed to evaluate the water flow capacity of the floor drains in the Division 1 and 2 cable spreading rooms.

The finding was more than minor because it affected a cornerstone objective. The finding was associated with the Mitigating System cornerstone attribute of protection against external factors (i.e., flood hazard) and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events, (i.e., flood hazard) to prevent undesirable consequences. The finding was of very low safety significance due to the fact that internal flooding would not result in the total loss of any safety function because the loss of safety related equipment in one division cable spreading room would not affect the safety related equipment in the other division cable spreading room. (Section 1R05.10)

Inspection Report# : [2006006 \(pdf\)](#)

G

Significance: G Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPER FUSE REMOVAL DURING CLEARANCE HANGING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self revealed after licensee personnel failed to adhere to clearance procedures affecting the Division 1 emergency diesel generator (EDG) room ventilation system. While performing a clearance instruction, licensee personnel erroneously removed a fuse that disabled a required remote shutdown function associated with the Division 1 EDG ventilation system. The error was discovered during the clearance restoration process. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of human performance because licensee personnel failed to follow the established decision-making process when faced with the decision to remove a fuse that was not listed on the clearance instruction.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the removal of a fuse contrary to the clearance procedure affected the remote shutdown capability of the Division 1 EDG. Because the finding only affected the remote shutdown operations capability of the EDG, the finding was determined to be of very low safety significance.

Inspection Report# : [2006017 \(pdf\)](#)

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A TESTING DEFICIENCY AFFECTING A REACTOR CORE ISOLATION COOLING REMOTE SHUTDOWN SYSTEM FUNCTION

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," following a review of Licensee Event Report 05000440/2006-001-00, "Incorrect Wiring in the Remote Shutdown Panel Results in a Fire Protection Program Violation," which identified that licensee personnel failed to correct a test deficiency associated with the remote shutdown circuit in a timely manner. The test deficiency was identified on September 9, 2003. The licensee corrected a wiring error and adequately tested the circuit on January 17, 2006. As part of their corrective actions, in addition to correcting the wiring error, licensee personnel performed an extent of condition review, which did not identify any additional wiring errors. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to appropriately evaluate the significance of the issue when the test deficiency was identified and therefore failed to appropriately prioritize and implement corrective actions in a timely manner.

This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding affected the reliability of the reactor core isolation cooling system during a control room fire scenario. The finding was determined through a Significance Determination Process Phase 3 analysis to be of very low safety significance due, in large part, to the low initiating event frequency of fires in the main control room as well as the availability of other mitigating systems.

Inspection Report# : [2006003 \(pdf\)](#)**G****Significance:** Mar 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW MAINTENACE PROCEDURES FOR ELECTRICAL EQUIPMENT VENTILATION FAN MOTOR WHEN VIBRATION LEVELS EXCEEDED ALERT CRITERIA

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on February 11, 2006, when licensee personnel failed to adhere to predictive maintenance program procedures after "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan vibration levels exceeded predictive maintenance program alert criteria on September 29, 2005. As part of their immediate corrective actions, licensee personnel completed repairs to the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system on March 3, 2006. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to predictive maintenance program procedures after a degraded condition was identified.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the failure to adhere to predictive maintenance program procedures on September 29, 2005, resulted in an unaddressed and unmonitored degraded fan motor condition, led to the fan motor failure, and resulted in a small fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected and the fire did not result in any personnel injuries or damage to other equipment.

Inspection Report# : [2006002 \(pdf\)](#)**G****Significance:** Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW BELT TENSIONING MAINTENANCE PROCEDURES FOR ELECTRICAL EQUIPMENT VENTILATION FAN MOTOR

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," when licensee personnel failed to adhere to maintenance procedures during "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train maintenance and did not establish the required drive belt tension between the return fan and motor prior to returning the train to service. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to maintenance procedures affecting safety-related equipment.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, a previous failure to adhere to procedures associated with this fan motor contributed to the failure of the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train that resulted in a fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected.

Inspection Report# : [2006002 \(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

ADS and MSIV Air Accumulators Stress Analysis Deficiencies

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving an inadequate stress analysis performed for the automatic depressurization system (ADS) air accumulators. Specifically, the licensee failed to account for all the related stresses in the ADS accumulator stress analysis calculation. Inclusion of these additional stresses resulted in a higher stress than allowed by the American Society of Mechanical Engineers Code. Additionally, the accumulators' certification of design, as required by the Code, Section III, did not include the maximum design pressure, which resulted in the accumulators being non-conforming.

The finding was more than minor because the failure to adequately evaluate the design requirements of the accumulators could have led to structural failure of the tanks, which would have prevented the ADS valves from functioning as designed and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009 \(pdf\)](#)

G

Significance: Mar 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Non-conservative Safety-Related Air Storage Tank Sizing Calculation

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the sizing of the main steam isolation valve and automatic depressurization system (ADS) air storage tank. The inspectors identified that the licensee failed to correctly specify in a design calculation the required minimum differential air pressure required to actuate the ADS valves when manually operated. This resulted in a safety-related air system calculation that was non-conservative when determining the long-term air volume requirements in the air storage tank. The licensee's corrective actions included verifying that adequate design margin existed for the air tank capacity and entered this performance deficiency into their corrective action program for resolution.

The finding was more than minor because the failure to adequately evaluate air storage tank sizing could result in over-predicting the tank's capacity as verified by the surveillance test's acceptance criteria (i.e., creating design margin capability that would not exist) and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006009 \(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE GEI-0009

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 19, 2006, when the inspectors identified during a safety-related breaker maintenance activity, that licensee personnel failed to perform required steps in procedure GEI-0009, "ABB Low Voltage Power Circuit Breaker Types K-600 & K-600S Through K-3000 & K-3000S Maintenance." Specifically, licensee personnel failed to perform required minimum operating voltage testing on the safety-related EF1A05 breaker that provided power to Division 1 Motor Control Center (MCC), Switchgear (SWGR), and Battery Room Supply Fan A. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of the licensee's corrective actions, an extent of condition review was conducted, which determined that no additional safety-related breakers were affected.

The inspectors concluded that the finding was more than minor in accordance with example 4.1 in IMC 0612, Appendix E, "Examples of Minor Issues," since the subject breaker was subsequently determined to be out of specification. This issue was also associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007 \(pdf\)](#)

G

Significance: Mar 17, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REQUIRED STEPS PRESCRIBED BY PROCEDURE ICI-B12-0001

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4, "Procedures," was identified on January 10, 2006, when the inspectors observed during a calibration check of a Division III Emergency Diesel Generator (EDG) Exhaust Air Damper, that licensee personnel failed to perform required steps prescribed by procedure ICI-B12-0001, "ITT NH90 Series Milliamperc Proportional/On-Off Hydramotor Actuator Calibration." The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel failed to adhere to a step-by-step procedure associated with safety-related equipment. As part of their corrective actions, licensee personnel revised ICI-B12-0001 to clarify the requirements of the procedure.

This finding was more than minor because it was associated with the Mitigating System cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because: (1) it did not represent an actual loss of safety function of a system; (2) it did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (3) it did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and (4) it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : [2006007 \(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY

AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006 \(pdf\)](#)

Inspection Report# : [2005003 \(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance determination letter was issued which characterized this issue as white.

Inspection Report# : [2004005 \(pdf\)](#)

Inspection Report# : [2005003 \(pdf\)](#)

Barrier Integrity

G

Significance: Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE REPAIRS TO OUTER LOWER CONTAINMENT AIRLOCK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4.1.a, "Procedures," was self-revealed when the lower outer containment airlock door failed to close as a result of improper maintenance on the door about 3 months prior to the failure. As part of the licensee's immediate corrective actions, the door was repaired and the event was discussed with involved maintenance personnel.

This finding was greater than minor because the finding was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents. The inspectors determined that the issue was of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of reactor containment, or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment. This finding had a cross-cutting aspect in the area of human

performance because licensee personnel failed to appropriately plan work activities to incorporate the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2006015 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : March 01, 2007

Perry 1

1Q/2007 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2006

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROMPTLY COMPLETE HOT WEATHER PREPARATIONS

The inspectors identified a finding of very low significance when licensee personnel failed to complete tasks designed to prepare equipment for operation during high temperature conditions by March 30, 2006. The finding also affected the cross-cutting area of Human Performance because the licensee organization failed to effectively coordinate, plan, and schedule completion of summer preparation activities prior to the onset of hot weather.

This finding was more than minor because it was associated with the protection against external factors attribute of the initiating events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. No violation of NRC requirements occurred.

Inspection Report# : [2006003](#) (pdf)

Mitigating Systems

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE SIMULATOR FIDELITY FOR STEADY STATE OPERATIONS

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 55.46, "Simulation Facilities," when licensee personnel failed to adhere to simulator fidelity requirements prescribed by ANSI/ANS-3.5-1998 for annual steady-state operation testing. Specifically, the licensee failed to provide adequate documentation that demonstrated that heat balance testing was performed and evaluated annually as required. The finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to thoroughly evaluate the simulator model limitations to address extent of condition concerns. The reviews and analyses did not fully analyze the impacts of simulator model limitations on previous testing or identify that some test results were not documented. The correction of the simulator model limitations was expected to be accomplished by a simulator model upgrade, scheduled for completion in July 2007.

The failure to evaluate and document simulator performance testing was more than minor because it affected the Mitigating Systems cornerstone and did not meet the requirements of 10 CFR 55.46 because of the realistic potential of providing negative training based on significant simulator deficiencies compared to the plant. The finding was considered to be of very low safety significance because it involved simulator fidelity and the simulator did not meet the performance requirements of 10 CFR 55.46 and had the potential to impact operator actions.

Inspection Report# : [2006005](#) (pdf)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT DEGRADED CONDITION OF THE REACTOR RECIRCULATION PUMP CO2 SYSTEM

The inspectors identified a finding of very low safety significance and an associated non-cited violation of License Condition C(6) for the failure to promptly correct the long-term recurring condition of insufficient CO₂ tank level that was required to support the operability of the reactor recirculation pump CO₂ system. The inspectors noted the reactor recirculation pumps' CO₂ system did not meet fire protection requirements on several occasions since 2001 due to the same failure mechanism. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to take appropriate corrective actions to address the recurring condition of low tank level in a timely manner. As part of their immediate corrective actions, the licensee restored tank CO₂ level to restore system operability and performed maintenance on the CO₂ tank to stop the CO₂ leak.

This finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because of safety functions that were assumed to remain available in the event of a reactor recirculation pump fire even though the finding was assigned a high degradation rating due to inadequate agent concentration required for deep seated fires.

Inspection Report# : [2006005 \(pdf\)](#)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: FIN Finding

MINIMUM PUMP FLOW SETTING NOT SUFFICIENT FOR UNLIMITED OPERATION

The inspectors identified a finding of very low safety significance associated with the minimum flow settings for the high pressure core spray, low pressure core spray, and residual heat removal pumps. Bulletin 88-04 identified that many pump minimum flow values were too low because they did not account for flow instability concerns. The inspectors identified that when licensee personnel addressed this operating experience item, they failed to properly verify the minimum flow settings with the pump manufacturer in accordance with the bulletin. The licensee's corrective actions included having the manufacturer perform a new analysis, which concluded that the existing minimum flow settings did not allow continuous operation of the pumps, and provided a monitoring and maintenance schedule based on the minimum flow values in order to promptly detect degradation. This performance deficiency was entered into the licensee's corrective action program for resolution. No violation of NRC requirements was identified.

This finding represented a performance deficiency because the licensee did not verify with the manufacturer that the minimum flow settings for these safety-related pumps were acceptable. The finding was more than minor because these pumps were operated since original plant start-up with an increased potential for unusual wear and aging without establishing increased monitoring and maintenance, or other compensatory actions and, therefore, was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and impacted the cornerstone objective of ensuring the availability and reliability of safety-related pumps. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the Significant Determination Process Phase 1 screening worksheet.

Inspection Report# : [2006005 \(pdf\)](#)

G

Significance: Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to provide full electrical isolation in the design of the post-fire safe shutdown control logic circuitry

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.L.3, having very low safety significance (Green), for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for Emergency Service Water Pump Discharge Shutoff Valve 1P45F0130A, did not have a transfer switch isolation contact provided, that would open to isolate main control room (MCR) fire-induced electrical faults when transferring controls to the remote shutdown location. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform an extensive evaluation of the associated circuitry and cables, to contact the panel's vendor, and other BWR6 plants, and to perform an extent of condition review. The licensee entered the issue into the corrective action program as CR 06-11399.

The finding was more than minor because it was associated with the mitigating systems cornerstone attribute of protection against external factors (fire) and had the potential to impact the mitigating systems cornerstone objective of ensuring the

capability of systems, that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. Using Part 1 of the Inspection Manual Chapter 0609, fire protection Significance Determination Process Phase 1 Worksheet, the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a MCR fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screens as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy (Section 1R05.4). The cause of the finding related to cross-cutting aspect of problem identification and resolution.

Inspection Report# : [2006006 \(pdf\)](#)

G

Significance: Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to evaluate the floor drain capacity in the division 1 and 2 cable spreading rooms

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) having very low safety significance (Green) for failing to implement and maintain in effect all provisions of the approved fire protection program as described in section 9A.5, D.1.(i) of the Updated Safety Analysis Report (USAR). The USAR stated that floor drains were designed to remove the expected fire fighting water flow from areas where fixed fire suppression systems were installed or where a fire hose may be used. The team identified that the licensee failed to evaluate the water flow capacity of the floor drains in the Division 1 and 2 cable spreading rooms.

The finding was more than minor because it affected a cornerstone objective. The finding was associated with the Mitigating System cornerstone attribute of protection against external factors (i.e., flood hazard) and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events, (i.e., flood hazard) to prevent undesirable consequences. The finding was of very low safety significance due to the fact that internal flooding would not result in the total loss of any safety function because the loss of safety related equipment in one division cable spreading room would not affect the safety related equipment in the other division cable spreading room. (Section 1R05.10)

Inspection Report# : [2006006 \(pdf\)](#)

G

Significance: Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPER FUSE REMOVAL DURING CLEARANCE HANGING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self revealed after licensee personnel failed to adhere to clearance procedures affecting the Division 1 emergency diesel generator (EDG) room ventilation system. While performing a clearance instruction, licensee personnel erroneously removed a fuse that disabled a required remote shutdown function associated with the Division 1 EDG ventilation system. The error was discovered during the clearance restoration process. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of human performance because licensee personnel failed to follow the established decision-making process when faced with the decision to remove a fuse that was not listed on the clearance instruction.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the removal of a fuse contrary to the clearance procedure affected the remote shutdown capability of the Division 1 EDG. Because the finding only affected the remote shutdown operations capability of the EDG, the finding was determined to be of very low safety significance.

Inspection Report# : [2006017 \(pdf\)](#)

G

Significance: Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A TESTING DEFICIENCY AFFECTING A REACTOR CORE ISOLATION COOLING REMOTE SHUTDOWN SYSTEM FUNCTION

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," following a review of Licensee Event Report 05000440/2006-001-00, "Incorrect Wiring in the Remote Shutdown Panel Results in a Fire Protection Program Violation," which identified that licensee personnel failed to correct a test deficiency associated with the remote shutdown circuit in a timely manner. The test deficiency was identified on September 9, 2003. The licensee corrected a wiring error and adequately tested the circuit on January 17, 2006. As part of their corrective actions, in addition to correcting the wiring error, licensee personnel performed an extent of condition review, which did not identify any additional wiring errors. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to appropriately evaluate the significance of the issue when the test deficiency was identified and therefore failed to appropriately prioritize and implement corrective actions in a timely manner.

This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding affected the reliability of the reactor core isolation cooling system during a control room fire scenario. The finding was determined through a Significance Determination Process Phase 3 analysis to be of very low safety significance due, in large part, to the low initiating event frequency of fires in the main control room as well as the availability of other mitigating systems.
Inspection Report# : [2006003 \(pdf\)](#)

W

Significance: Dec 31, 2003

Identified By: NRC

Item Type: VIO Violation

INADEQUATE LPCS/RHR 'A' FILL AND VENT PROCEDURES RESULTS IN SYSTEM INOPERABILITY AFTER LOSS OF OFFSITE POWER

An apparent self-revealed violation of Technical Specification 5.4 occurred when the waterleg pump for low pressure core spray (LPCS) and residual heat removal (RHR) 'A' became air bound following a loss of offsite power. Subsequent investigation revealed that the procedures for venting these systems did not include the high point vent valve on the discharge of the pump, thus allowing gas to accumulate in a vertical section of system piping. When the waterleg pump lost power on August 14, 2003, the accumulated gas expanded and caused voiding of the pump. As a result, both LPCS and RHR 'A' were rendered inoperable.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety) and a final Significance Determination Process letter was issued on March 12, 2004, and will be inspected within the scope of a supplemental 95002 inspection in May 2004.

Inspection Report# : [2004006 \(pdf\)](#)

Inspection Report# : [2005003 \(pdf\)](#)

W

Significance: Sep 30, 2003

Identified By: NRC

Item Type: VIO Violation

IMPROPER MAINTENANCE CAUSES EMERGENCY SERVICE WATER PUMP FAILURE

A self-revealed apparent violation of Technical Specification (TS) 5.4 occurred when the Division 1 emergency service water (ESW) pump failed during routine pump operation. The licensee rebuilt the pump in 1997 and during this reassembly, failed to properly reassemble the pump shaft connections. The improper reassembly led to pump failure on September 1, 2003.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that it is an issue with low to moderate safety significance. On January 28, 2004, a final significance

determination letter was issued which characterized this issue as white.

On March 14, 2006, the NRC completed a CAL Followup Inspection in the IP 95002 Issues area that reviewed selected commitments and action items described in the Perry Phase 2 PII Detailed Action and Monitoring Plan (DAMP) and your August 8 and August 17, 2005, letters. In the area of ESW Pump Coupling Assembly Concerns, no findings of significance were identified and we concluded that your corrective actions have been effective. In particular, you have established an adequate Quality Control Inspection Point Assignment Program and have effectively implemented this program.

On August 15, 2006, the NRC completed a CAL Followup Inspection in the area of ESW Pump Coupling Assembly Concerns. No findings of significance were identified and we concluded that corrective actions have been effective. In particular, an adequate Quality Control Inspection Point Assignment Program have been established and this program has been effectively implemented.

Inspection Report# : [2004005](#) (pdf)

Inspection Report# : [2005003](#) (pdf)

Inspection Report# : [2006007](#) (pdf)

Inspection Report# : [2006014](#) (pdf)

Barrier Integrity

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

NON-NRC APPROVED CODE USED IN FLAW EVALUATION OF AN ASME CLASS 3 SYSTEM

The inspectors identified a finding a very low safety significance and an associated non-cited violation of 10 CFR 50.55(a)(b)(5), "Codes and Standards," for the failure to appropriately implement American Society of Mechanical Engineers (ASME) Section XI Code Cases in the operability evaluation of a through-wall leak on a Class 3 component. Specifically, the licensee identified a through-wall leak on an emergency service water (ESW) pipe weld on the outlet of the 'B' emergency closed cooling heat exchanger. The piping was ASME Code Class 3 and the licensee applied Code Case N-513-2, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Piping," for flaw acceptance in lieu of a Code repair. This Code Case was not approved in Regulatory Guide 1.147 and therefore could not be used without prior NRC approval. Subsequently, when Code Case N-513-1 was used, the licensee did not account for all flaws in the leaking pipe section. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel were not trained adequately to recognize the inappropriate implementation of the Code (H.2(b)). As part of their immediate corrective actions, licensee personnel revised the flaw analysis to account for all flaws in the affected pipe section and the licensee concluded that the structural requirements of Section XI were met.

The finding was more than minor because the failure to appropriately implement Code requirements in the operability evaluation of through-wall leaks in safety system piping was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because the revised flaw characterization and flaw analysis determined that the structural integrity of the pipe met Code acceptance limits.

Inspection Report# : [2007002](#) (pdf)

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

PROCEDURES INAPPROPRIATE TO CIRCUMSTANCES FOR DEGRADED CONTAINMENT LOWER AIRLOCK INNER DOOR SEAL SYSTEM

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during a review of the containment airlock system. Specifically, the inspectors identified that the licensee had failed to implement airlock test and maintenance procedures that were appropriate to the circumstances when the lower airlock seal system was found to be degraded and subject to frequent failure. The primary cause of this finding was related

to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to implement internal operating experience through changes in station processes, procedures, or equipment to address the frequent failures of the lower airlock seal system (P.2(b)). As part of their immediate corrective actions, the licensee initiated a procedure review to determine appropriate torque values and test frequencies for the affected valves. As a long-term corrective action, the licensee planned to replace all affected valves.

The finding was more than minor because it was associated with the Containment Procedure Quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Because the lower airlock outer door containment barrier was determined to be available during the periods when the inner door barrier was affected, the finding was determined to be of very low safety significance.

Inspection Report# : [2007002 \(pdf\)](#)

G

Significance: Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE REPAIRS TO OUTER LOWER CONTAINMENT AIRLOCK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4.1.a, "Procedures," was self-revealed when the lower outer containment airlock door failed to close as a result of improper maintenance on the door about 3 months prior to the failure. As part of the licensee's immediate corrective actions, the door was repaired and the event was discussed with involved maintenance personnel.

This finding was greater than minor because the finding was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents. The inspectors determined that the issue was of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of reactor containment, or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee personnel failed to appropriately plan work activities to incorporate the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2006015 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : June 01, 2007

Perry 1

2Q/2007 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER STORAGE OF COMBUSTIBLE MATERIAL

The inspectors identified a finding of very low significance and an associated non-cited violation of the operating license section C(6) for the storage of transient combustible material in the Turbine Building 620' elevation. Specifically, on May 7 and May 16, 2007, the inspectors identified several acetylene and oxygen cylinders as well as other combustible material in the area that exceeded the fire hazards analysis for the fire zone. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to properly communicate expectations regarding procedural compliance that specified combustible loading of the fire zone. As part of their immediate corrective actions, licensee personnel removed the excess combustible material from the area and entered the issue into their corrective action program.

This finding was more than minor because it was associated with the protection against external factors attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the combustible storage amount exceeded the licensee's fire hazard analysis limits. The finding was determined to be of very low safety significance because the inspectors determined that the combustible materials of significance, that exceeded the fire hazards analysis limits, were in approved containers.

Inspection Report# : [2007003](#) (pdf)

G

Significance: Jun 30, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT APPROPRIATE PROCEDURE IN REASSEMBLY OF REACTOR CORE ISOLATION COOLING PIPING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when reactor water level indication was lost while the reactor was shut down on May 5, 2007.

Specifically, licensee personnel failed to implement appropriate procedures in the re-assembly of reactor core isolation cooling head spray piping during a 1993 refueling outage. This resulted in leakage from a flange connection that affected the reference leg of the reactor shutdown and upset range level indication system, which caused a loss of reactor level indication. As part of their immediate corrective actions, licensee personnel repaired the flange, restored reactor water level indication, and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

Specifically, the finding resulted in a loss of reactor water level indication. The finding was determined to be of very low safety significance because the inspectors determined that it did not result in a loss of control of reactor water level and it did not affect decay heat removal systems.

Inspection Report# : [2007003](#) (pdf)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

MAIN TURBINE GENERATOR TRIPPED ON REVERSE POWER

A finding of very low safety significance was self-revealed when, during reactor power ascension after a refueling outage, the main turbine generator tripped on reverse power on May 13, 2007. The primary cause of this event was licensee personnel's failure to appropriately install an electro-hydraulic control (EHC) circuit card following maintenance. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(a) because the organization failed to properly communicate human error prevention techniques for proper insertion of the control cards. As part of their immediate corrective actions, licensee personnel repaired the installation of the affected card and also repaired the installation of several other EHC system cards that were subsequently identified by the licensee as incorrectly installed. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a turbine trip. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003](#) (pdf)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

REACTOR SCRAMMED ON LOW REACTOR WATER LEVEL

A finding of very low safety significance was self-revealed when, during post-modification testing of the feedwater system after a refueling outage, the reactor scrammed on low reactor water level on May 15, 2007. The primary cause of this event was the licensee's failure to appropriately control the implementation of a digital feedwater control system design modification. Specifically, the licensee installed the modification with a control system software logic that was contrary to plant design and this resulted in a loss of feedwater flow to the reactor. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.3(a) because the organization failed to properly plan work activities that incorporated insights to risk. As part of their immediate corrective action, the licensee revised the digital feedwater control system software and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a reactor scram. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003](#) (pdf)

Mitigating Systems

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE SIMULATOR FIDELITY FOR STEADY STATE OPERATIONS

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 55.46, "Simulation Facilities," when licensee personnel failed to adhere to simulator fidelity requirements prescribed by ANSI/ANS-3.5-1998 for annual steady-state operation testing. Specifically, the licensee failed to provide adequate documentation that demonstrated that heat balance testing was performed and evaluated annually as required. The finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to thoroughly evaluate the simulator model limitations to address extent of condition concerns. The reviews and analyses did not fully analyze the impacts of simulator model limitations on previous testing or identify that some test results were not documented. The correction of the simulator model limitations was expected to be accomplished by a simulator model upgrade, scheduled for completion in July 2007.

The failure to evaluate and document simulator performance testing was more than minor because it affected the Mitigating Systems cornerstone and did not meet the requirements of 10 CFR 55.46 because of the realistic potential of providing negative training based on significant simulator deficiencies compared to the plant. The finding was considered to be of very low safety significance because it involved simulator fidelity and the simulator did not meet the performance requirements of 10 CFR 55.46 and had the potential to impact operator actions.

Inspection Report# : [2006005](#) ([pdf](#))

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT DEGRADED CONDITION OF THE REACTOR RECIRCULATION PUMP CO₂ SYSTEM

The inspectors identified a finding of very low safety significance and an associated non-cited violation of License Condition C(6) for the failure to promptly correct the long-term recurring condition of insufficient CO₂ tank level that was required to support the operability of the reactor recirculation pump CO₂ system. The inspectors noted the reactor recirculation pumps' CO₂ system did not meet fire protection requirements on several occasions since 2001 due to the same failure mechanism. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to take appropriate corrective actions to address the recurring condition of low tank level in a timely manner. As part of their immediate corrective actions, the licensee restored tank CO₂ level to restore system operability and performed maintenance on the CO₂ tank to stop the CO₂ leak.

This finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because of safety functions that were assumed to remain available in the event of a reactor recirculation pump fire even though the finding was assigned a high degradation rating due to inadequate agent concentration required for deep seated fires.

Inspection Report# : [2006005](#) ([pdf](#))

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: FIN Finding

MINIMUM PUMP FLOW SETTING NOT SUFFICIENT FOR UNLIMITED OPERATION

The inspectors identified a finding of very low safety significance associated with the minimum flow settings for the high pressure core spray, low pressure core spray, and residual heat removal pumps. Bulletin 88-04 identified that many pump minimum flow values were too low because they did not account for flow instability concerns. The inspectors identified that when licensee personnel addressed this operating experience item, they failed to properly verify the minimum flow settings with the pump manufacturer in accordance with the bulletin. The licensee's corrective actions included having the manufacturer perform a new analysis, which concluded that the existing minimum flow settings did not allow continuous operation of the pumps, and provided a monitoring and maintenance schedule based on the minimum flow values in order to promptly detect degradation. This performance deficiency was entered into the licensee's corrective action program for resolution. No violation of NRC requirements was identified.

This finding represented a performance deficiency because the licensee did not verify with the manufacturer that the minimum flow settings for these safety-related pumps were acceptable. The finding was more than minor because these pumps were operated since original plant start-up with an increased potential for unusual wear and aging without establishing increased monitoring and maintenance, or other compensatory actions and, therefore, was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and impacted the cornerstone objective of ensuring the availability and reliability of safety-related pumps. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the Significant Determination Process Phase 1 screening worksheet.

Inspection Report# : [2006005](#) ([pdf](#))

G**Significance:** Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to provide full electrical isolation in the design of the post-fire safe shutdown control logic circuitry

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.L.3, having very low safety significance (Green), for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for Emergency Service Water Pump Discharge Shutoff Valve 1P45F0130A, did not have a transfer switch isolation contact provided, that would open to isolate main control room (MCR) fire-induced electrical faults when transferring controls to the remote shutdown location. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform an extensive evaluation of the associated circuitry and cables, to contact the panel's vendor, and other BWR6 plants, and to perform an extent of condition review. The licensee entered the issue into the corrective action program as CR 06-11399.

The finding was more than minor because it was associated with the mitigating systems cornerstone attribute of protection against external factors (fire) and had the potential to impact the mitigating systems cornerstone objective of ensuring the capability of systems, that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. Using Part 1 of the Inspection Manual Chapter 0609, fire protection Significance Determination Process Phase 1 Worksheet, the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a MCR fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screens as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy (Section 1R05.4). The cause of the finding related to cross-cutting aspect of problem identification and resolution.

Inspection Report# : [2006006 \(pdf\)](#)**G****Significance:** Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to evaluate the floor drain capacity in the division 1 and 2 cable spreading rooms

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) having very low safety significance (Green) for failing to implement and maintain in effect all provisions of the approved fire protection program as described in section 9A.5, D.1.(i) of the Updated Safety Analysis Report (USAR). The USAR stated that floor drains were designed to remove the expected fire fighting water flow from areas where fixed fire suppression systems were installed or where a fire hose may be used. The team identified that the licensee failed to evaluate the water flow capacity of the floor drains in the Division 1 and 2 cable spreading rooms.

The finding was more than minor because it affected a cornerstone objective. The finding was associated with the Mitigating System cornerstone attribute of protection against external factors (i.e., flood hazard) and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events, (i.e., flood hazard) to prevent undesirable consequences. The finding was of very low safety significance due to the fact that internal flooding would not result in the total loss of any safety function because the loss of safety related equipment in one division cable spreading room would not affect the safety related equipment in the other division cable spreading room. (Section 1R05.10)

Inspection Report# : [2006006 \(pdf\)](#)**G****Significance:** Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPER FUSE REMOVAL DURING CLEARANCE HANGING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self revealed after licensee personnel failed to adhere to clearance procedures affecting the Division 1 emergency

diesel generator (EDG) room ventilation system. While performing a clearance instruction, licensee personnel erroneously removed a fuse that disabled a required remote shutdown function associated with the Division 1 EDG ventilation system. The error was discovered during the clearance restoration process. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of human performance because licensee personnel failed to follow the established decision-making process when faced with the decision to remove a fuse that was not listed on the clearance instruction.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the removal of a fuse contrary to the clearance procedure affected the remote shutdown capability of the Division 1 EDG. Because the finding only affected the remote shutdown operations capability of the EDG, the finding was determined to be of very low safety significance.

Inspection Report# : [2006017](#) (pdf)

Barrier Integrity

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

NON-NRC APPROVED CODE USED IN FLAW EVALUATION OF AN ASME CLASS 3 SYSTEM

The inspectors identified a finding a very low safety significance and an associated non-cited violation of 10 CFR 50.55(a)(b)(5), "Codes and Standards," for the failure to appropriately implement American Society of Mechanical Engineers (ASME) Section XI Code Cases in the operability evaluation of a through-wall leak on a Class 3 component. Specifically, the licensee identified a through-wall leak on an emergency service water (ESW) pipe weld on the outlet of the 'B' emergency closed cooling heat exchanger. The piping was ASME Code Class 3 and the licensee applied Code Case N-513-2, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Piping," for flaw acceptance in lieu of a Code repair. This Code Case was not approved in Regulatory Guide 1.147 and therefore could not be used without prior NRC approval. Subsequently, when Code Case N-513-1 was used, the licensee did not account for all flaws in the leaking pipe section. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel were not trained adequately to recognize the inappropriate implementation of the Code (H.2(b)). As part of their immediate corrective actions, licensee personnel revised the flaw analysis to account for all flaws in the affected pipe section and the licensee concluded that the structural requirements of Section XI were met.

The finding was more than minor because the failure to appropriately implement Code requirements in the operability evaluation of through-wall leaks in safety system piping was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because the revised flaw characterization and flaw analysis determined that the structural integrity of the pipe met Code acceptance limits.

Inspection Report# : [2007002](#) (pdf)

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

PROCEDURES INAPPROPRIATE TO CIRCUMSTANCES FOR DEGRADED CONTAINMENT LOWER AIRLOCK INNER DOOR SEAL SYSTEM

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during a review of the containment airlock system. Specifically, the inspectors identified that the licensee had failed to implement airlock test and maintenance procedures that were appropriate to the circumstances when the lower airlock seal system was found to be degraded and subject to frequent failure. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel

failed to implement internal operating experience through changes in station processes, procedures, or equipment to address the frequent failures of the lower airlock seal system (P.2(b)). As part of their immediate corrective actions, the licensee initiated a procedure review to determine appropriate torque values and test frequencies for the affected valves. As a long-term corrective action, the licensee planned to replace all affected valves.

The finding was more than minor because it was associated with the Containment Procedure Quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Because the lower airlock outer door containment barrier was determined to be available during the periods when the inner door barrier was affected, the finding was determined to be of very low safety significance.

Inspection Report# : [2007002](#) ([pdf](#))

G

Significance: Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE REPAIRS TO OUTER LOWER CONTAINMENT AIRLOCK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4.1.a, "Procedures," was self-revealed when the lower outer containment airlock door failed to close as a result of improper maintenance on the door about 3 months prior to the failure. As part of the licensee's immediate corrective actions, the door was repaired and the event was discussed with involved maintenance personnel.

This finding was greater than minor because the finding was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents. The inspectors determined that the issue was of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of reactor containment, or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee personnel failed to appropriately plan work activities to incorporate the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2006015](#) ([pdf](#))

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 24, 2007

Perry 1

3Q/2007 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER STORAGE OF COMBUSTIBLE MATERIAL

The inspectors identified a finding of very low significance and an associated non-cited violation of the operating license section C(6) for the storage of transient combustible material in the Turbine Building 620' elevation. Specifically, on May 7 and May 16, 2007, the inspectors identified several acetylene and oxygen cylinders as well as other combustible material in the area that exceeded the fire hazards analysis for the fire zone. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to properly communicate expectations regarding procedural compliance that specified combustible loading of the fire zone. As part of their immediate corrective actions, licensee personnel removed the excess combustible material from the area and entered the issue into their corrective action program.

This finding was more than minor because it was associated with the protection against external factors attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the combustible storage amount exceeded the licensee's fire hazard analysis limits. The finding was determined to be of very low safety significance because the inspectors determined that the combustible materials of significance, that exceeded the fire hazards analysis limits, were in approved containers.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT APPROPRIATE PROCEDURE IN REASSEMBLY OF REACTOR CORE ISOLATION COOLING PIPING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when reactor water level indication was lost while the reactor was shut down on May 5, 2007.

Specifically, licensee personnel failed to implement appropriate procedures in the re-assembly of reactor core isolation cooling head spray piping during a 1993 refueling outage. This resulted in leakage from a flange connection that affected the reference leg of the reactor shutdown and upset range level indication system, which caused a loss of reactor level indication. As part of their immediate corrective actions, licensee personnel repaired the flange, restored reactor water level indication, and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

Specifically, the finding resulted in a loss of reactor water level indication. The finding was determined to be of very low safety significance because the inspectors determined that it did not result in a loss of control of reactor water level and it did not affect decay heat removal systems.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

MAIN TURBINE GENERATOR TRIPPED ON REVERSE POWER

A finding of very low safety significance was self-revealed when, during reactor power ascension after a refueling outage, the main turbine generator tripped on reverse power on May 13, 2007. The primary cause of this event was licensee personnel's failure to appropriately install an electro-hydraulic control (EHC) circuit card following maintenance. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(a) because the organization failed to properly communicate human error prevention techniques for proper insertion of the control cards. As part of their immediate corrective actions, licensee personnel repaired the installation of the affected card and also repaired the installation of several other EHC system cards that were subsequently identified by the licensee as incorrectly installed. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a turbine trip. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003](#) (pdf)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

REACTOR SCRAMMED ON LOW REACTOR WATER LEVEL

A finding of very low safety significance was self-revealed when, during post-modification testing of the feedwater system after a refueling outage, the reactor scrammed on low reactor water level on May 15, 2007. The primary cause of this event was the licensee's failure to appropriately control the implementation of a digital feedwater control system design modification. Specifically, the licensee installed the modification with a control system software logic that was contrary to plant design and this resulted in a loss of feedwater flow to the reactor. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.3(a) because the organization failed to properly plan work activities that incorporated insights to risk. As part of their immediate corrective action, the licensee revised the digital feedwater control system software and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a reactor scram. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003](#) (pdf)

Mitigating Systems

G

Significance: Sep 30, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES DISABLES EMERGENCY DIESEL OVERSPEED TRIP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when the Division 2 emergency diesel generator failed to trip during surveillance testing on August 20, 2007. Specifically, operators failed to position an overspeed trip reset valve in accordance with diesel startup procedures on August 19, 2007, and this disabled the essential overspeed trip function of the diesel. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to communicate and use human error prevention techniques commensurate with the risk of the assigned task. As part of their immediate corrective actions, licensee personnel restored the diesel to the appropriate equipment alignment and conducted additional training for operators on procedure adherence.

The finding was more than minor because it was associated with the Human Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding adversely affected an essential trip feature designed to protect the diesel from an overspeed condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function.

Inspection Report# : [2007004](#) (pdf)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEMONSTRATE SIMULATOR FIDELITY FOR STEADY STATE OPERATIONS

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 55.46, "Simulation Facilities," when licensee personnel failed to adhere to simulator fidelity requirements prescribed by ANSI/ANS-3.5-1998 for annual steady-state operation testing. Specifically, the licensee failed to provide adequate documentation that demonstrated that heat balance testing was performed and evaluated annually as required. The finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to thoroughly evaluate the simulator model limitations to address extent of condition concerns. The reviews and analyses did not fully analyze the impacts of simulator model limitations on previous testing or identify that some test results were not documented. The correction of the simulator model limitations was expected to be accomplished by a simulator model upgrade, scheduled for completion in July 2007.

The failure to evaluate and document simulator performance testing was more than minor because it affected the Mitigating Systems cornerstone and did not meet the requirements of 10 CFR 55.46 because of the realistic potential of providing negative training based on significant simulator deficiencies compared to the plant. The finding was considered to be of very low safety significance because it involved simulator fidelity and the simulator did not meet the performance requirements of 10 CFR 55.46 and had the potential to impact operator actions.

Inspection Report# : [2006005](#) (pdf)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT DEGRADED CONDITION OF THE REACTOR RECIRCULATION PUMP CO₂ SYSTEM

The inspectors identified a finding of very low safety significance and an associated non-cited violation of License Condition C(6) for the failure to promptly correct the long-term recurring condition of insufficient CO₂ tank level that was required to support the operability of the reactor recirculation pump CO₂ system. The inspectors noted the reactor recirculation pumps' CO₂ system did not meet fire protection requirements on several occasions since 2001 due to the same failure mechanism. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because the licensee failed to take appropriate corrective actions to address the recurring condition of low tank level in a timely manner. As part of their immediate corrective actions, the licensee restored tank CO₂ level to restore system operability and performed maintenance on the CO₂ tank to stop the CO₂ leak.

This finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because of safety functions that were assumed to remain available in the event of a reactor recirculation pump fire even though the finding was assigned a high degradation rating due to inadequate agent concentration required for deep seated fires.

Inspection Report# : [2006005](#) (pdf)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: FIN Finding

MINIMUM PUMP FLOW SETTING NOT SUFFICIENT FOR UNLIMITED OPERATION

The inspectors identified a finding of very low safety significance associated with the minimum flow settings for the high pressure core spray, low pressure core spray, and residual heat removal pumps. Bulletin 88-04 identified that many pump minimum flow values were too low because they did not account for flow instability concerns. The inspectors identified that when licensee personnel addressed this operating experience item, they failed to properly verify the minimum flow settings with the pump manufacturer in accordance with the bulletin. The licensee's corrective actions included having the manufacturer perform a new analysis, which concluded that the existing minimum flow settings did not allow continuous operation of the pumps, and provided a monitoring and maintenance schedule based on the minimum flow values in order to promptly detect degradation. This performance deficiency was entered into the licensee's corrective action program for resolution. No violation of NRC requirements was identified.

This finding represented a performance deficiency because the licensee did not verify with the manufacturer that the minimum flow settings for these safety-related pumps were acceptable. The finding was more than minor because these pumps were operated since original plant start-up with an increased potential for unusual wear and aging without establishing increased monitoring and maintenance, or other compensatory actions and, therefore, was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and impacted the cornerstone objective of ensuring the availability and reliability of safety-related pumps. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the Significant Determination Process Phase 1 screening worksheet.

Inspection Report# : [2006005 \(pdf\)](#)

G

Significance: Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to provide full electrical isolation in the design of the post-fire safe shutdown control logic circuitry

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.L.3, having very low safety significance (Green), for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for Emergency Service Water Pump Discharge Shutoff Valve 1P45F0130A, did not have a transfer switch isolation contact provided, that would open to isolate main control room (MCR) fire-induced electrical faults when transferring controls to the remote shutdown location. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform an extensive evaluation of the associated circuitry and cables, to contact the panel's vendor, and other BWR6 plants, and to perform an extent of condition review. The licensee entered the issue into the corrective action program as CR 06-11399.

The finding was more than minor because it was associated with the mitigating systems cornerstone attribute of protection against external factors (fire) and had the potential to impact the mitigating systems cornerstone objective of ensuring the capability of systems, that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. Using Part 1 of the Inspection Manual Chapter 0609, fire protection Significance Determination Process Phase 1 Worksheet, the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a MCR fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screens as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy (Section 1R05.4). The cause of the finding related to cross-cutting aspect of problem identification and resolution.

Inspection Report# : [2006006 \(pdf\)](#)

G

Significance: Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to evaluate the floor drain capacity in the division 1 and 2 cable spreading rooms

The team identified a NCV of the Perry 1 Nuclear Power Plant Facility Operating License Condition 2.C.(6) having very low safety significance (Green) for failing to implement and maintain in effect all provisions of the approved fire

protection program as described in section 9A.5, D.1.(i) of the Updated Safety Analysis Report (USAR). The USAR stated that floor drains were designed to remove the expected fire fighting water flow from areas where fixed fire suppression systems were installed or where a fire hose may be used. The team identified that the licensee failed to evaluate the water flow capacity of the floor drains in the Division 1 and 2 cable spreading rooms.

The finding was more than minor because it affected a cornerstone objective. The finding was associated with the Mitigating System cornerstone attribute of protection against external factors (i.e., flood hazard) and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events, (i.e., flood hazard) to prevent undesirable consequences. The finding was of very low safety significance due to the fact that internal flooding would not result in the total loss of any safety function because the loss of safety related equipment in one division cable spreading room would not affect the safety related equipment in the other division cable spreading room. (Section 1R05.10)

Inspection Report# : [2006006](#) (pdf)

G

Significance: Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

IMPROPER FUSE REMOVAL DURING CLEARANCE HANGING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self revealed after licensee personnel failed to adhere to clearance procedures affecting the Division 1 emergency diesel generator (EDG) room ventilation system. While performing a clearance instruction, licensee personnel erroneously removed a fuse that disabled a required remote shutdown function associated with the Division 1 EDG ventilation system. The error was discovered during the clearance restoration process. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of human performance because licensee personnel failed to follow the established decision-making process when faced with the decision to remove a fuse that was not listed on the clearance instruction.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the removal of a fuse contrary to the clearance procedure affected the remote shutdown capability of the Division 1 EDG. Because the finding only affected the remote shutdown operations capability of the EDG, the finding was determined to be of very low safety significance.

Inspection Report# : [2006017](#) (pdf)

Barrier Integrity

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

NON-NRC APPROVED CODE USED IN FLAW EVALUATION OF AN ASME CLASS 3 SYSTEM

The inspectors identified a finding a very low safety significance and an associated non-cited violation of 10 CFR 50.55(a)(b)(5), "Codes and Standards," for the failure to appropriately implement American Society of Mechanical Engineers (ASME) Section XI Code Cases in the operability evaluation of a through-wall leak on a Class 3 component. Specifically, the licensee identified a through-wall leak on an emergency service water (ESW) pipe weld on the outlet of the 'B' emergency closed cooling heat exchanger. The piping was ASME Code Class 3 and the licensee applied Code Case N-513-2, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Piping," for flaw acceptance in lieu of a Code repair. This Code Case was not approved in Regulatory Guide 1.147 and therefore could not be used without prior NRC approval. Subsequently, when Code Case N-513-1 was used, the licensee did not account for all flaws in the leaking pipe section. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel were not trained adequately to recognize the inappropriate implementation of the Code (H.2(b)). As part of their immediate corrective actions, licensee personnel

revised the flaw analysis to account for all flaws in the affected pipe section and the licensee concluded that the structural requirements of Section XI were met.

The finding was more than minor because the failure to appropriately implement Code requirements in the operability evaluation of through-wall leaks in safety system piping was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because the revised flaw characterization and flaw analysis determined that the structural integrity of the pipe met Code acceptance limits.

Inspection Report# : [2007002](#) ([pdf](#))

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

PROCEDURES INAPPROPRIATE TO CIRCUMSTANCES FOR DEGRADED CONTAINMENT LOWER AIRLOCK INNER DOOR SEAL SYSTEM

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during a review of the containment airlock system. Specifically, the inspectors identified that the licensee had failed to implement airlock test and maintenance procedures that were appropriate to the circumstances when the lower airlock seal system was found to be degraded and subject to frequent failure. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to implement internal operating experience through changes in station processes, procedures, or equipment to address the frequent failures of the lower airlock seal system (P.2(b)). As part of their immediate corrective actions, the licensee initiated a procedure review to determine appropriate torque values and test frequencies for the affected valves. As a long-term corrective action, the licensee planned to replace all affected valves.

The finding was more than minor because it was associated with the Containment Procedure Quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Because the lower airlock outer door containment barrier was determined to be available during the periods when the inner door barrier was affected, the finding was determined to be of very low safety significance.

Inspection Report# : [2007002](#) ([pdf](#))

G

Significance: Dec 13, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE REPAIRS TO OUTER LOWER CONTAINMENT AIRLOCK

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.4.1.a, "Procedures," was self-revealed when the lower outer containment airlock door failed to close as a result of improper maintenance on the door about 3 months prior to the failure. As part of the licensee's immediate corrective actions, the door was repaired and the event was discussed with involved maintenance personnel.

This finding was greater than minor because the finding was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents. The inspectors determined that the issue was of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of reactor containment, or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee personnel failed to appropriately plan work activities to incorporate the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2006015](#) ([pdf](#))

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : December 07, 2007

Perry 1

4Q/2007 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER STORAGE OF COMBUSTIBLE MATERIAL

The inspectors identified a finding of very low significance and an associated non-cited violation of the operating license section C(6) for the storage of transient combustible material in the Turbine Building 620' elevation.

Specifically, on May 7 and May 16, 2007, the inspectors identified several acetylene and oxygen cylinders as well as other combustible material in the area that exceeded the fire hazards analysis for the fire zone. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to properly communicate expectations regarding procedural compliance that specified combustible loading of the fire zone. As part of their immediate corrective actions, licensee personnel removed the excess combustible material from the area and entered the issue into their corrective action program.

This finding was more than minor because it was associated with the protection against external factors attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the combustible storage amount exceeded the licensee's fire hazard analysis limits. The finding was determined to be of very low safety significance because the inspectors determined that the combustible materials of significance, that exceeded the fire hazards analysis limits, were in approved containers.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT APPROPRIATE PROCEDURE IN REASSEMBLY OF REACTOR CORE ISOLATION COOLING PIPING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when reactor water level indication was lost while the reactor was shut down on May 5, 2007.

Specifically, licensee personnel failed to implement appropriate procedures in the re-assembly of reactor core isolation cooling head spray piping during a 1993 refueling outage. This resulted in leakage from a flange connection that affected the reference leg of the reactor shutdown and upset range level indication system, which caused a loss of reactor level indication. As part of their immediate corrective actions, licensee personnel repaired the flange, restored reactor water level indication, and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

Specifically, the finding resulted in a loss of reactor water level indication. The finding was determined to be of very low safety significance because the inspectors determined that it did not result in a loss of control of reactor water level and it did not affect decay heat removal systems.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

MAIN TURBINE GENERATOR TRIPPED ON REVERSE POWER

A finding of very low safety significance was self-revealed when, during reactor power ascension after a refueling outage, the main turbine generator tripped on reverse power on May 13, 2007. The primary cause of this event was licensee personnel's failure to appropriately install an electro-hydraulic control (EHC) circuit card following maintenance. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(a) because the organization failed to properly communicate human error prevention techniques for proper insertion of the control cards. As part of their immediate corrective actions, licensee personnel repaired the installation of the affected card and also repaired the installation of several other EHC system cards that were subsequently identified by the licensee as incorrectly installed. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a turbine trip. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003](#) ([pdf](#))

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

REACTOR SCRAMMED ON LOW REACTOR WATER LEVEL

A finding of very low safety significance was self-revealed when, during post-modification testing of the feedwater system after a refueling outage, the reactor scrammed on low reactor water level on May 15, 2007. The primary cause of this event was the licensee's failure to appropriately control the implementation of a digital feedwater control system design modification. Specifically, the licensee installed the modification with a control system software logic that was contrary to plant design and this resulted in a loss of feedwater flow to the reactor. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.3(a) because the organization failed to properly plan work activities that incorporated insights to risk. As part of their immediate corrective action, the licensee revised the digital feedwater control system software and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a reactor scram. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003](#) ([pdf](#))

Mitigating Systems

G

Significance: Sep 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES DISABLED EMERGENCY DIESEL OVERSPEED TRIP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when the Division 2 emergency diesel generator failed to trip during surveillance testing on August 20, 2007. Specifically, operators failed to position an overspeed trip reset valve in accordance with diesel startup procedures on August 19, 2007, and this disabled the essential overspeed trip function of the diesel. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to communicate and use human error prevention techniques commensurate with the risk of the assigned task. As part of their immediate corrective actions, licensee personnel restored the diesel to the appropriate equipment alignment and conducted additional training for operators on procedure adherence.

The finding was more than minor because it was associated with the Human Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding adversely affected an essential trip feature designed to protect the diesel from an overspeed condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function.

Inspection Report# : [2007004](#) ([pdf](#))

Barrier Integrity

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

NON-NRC APPROVED CODE USED IN FLAW EVALUATION OF AN ASME CLASS 3 SYSTEM

The inspectors identified a finding a very low safety significance and an associated non-cited violation of 10 CFR 50.55(a)(b)(5), "Codes and Standards," for the failure to appropriately implement American Society of Mechanical Engineers (ASME) Section XI Code Cases in the operability evaluation of a through-wall leak on a Class 3 component. Specifically, the licensee identified a through-wall leak on an emergency service water (ESW) pipe weld on the outlet of the 'B' emergency closed cooling heat exchanger. The piping was ASME Code Class 3 and the licensee applied Code Case N-513-2, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Piping," for flaw acceptance in lieu of a Code repair. This Code Case was not approved in Regulatory Guide 1.147 and therefore could not be used without prior NRC approval. Subsequently, when Code Case N-513-1 was used, the licensee did not account for all flaws in the leaking pipe section. The primary cause of this finding was related to the cross-cutting area of Human Performance because licensee personnel were not trained adequately to recognize the inappropriate implementation of the Code (H.2(b)). As part of their immediate corrective actions, licensee personnel revised the flaw analysis to account for all flaws in the affected pipe section and the licensee concluded that the structural requirements of Section XI were met.

The finding was more than minor because the failure to appropriately implement Code requirements in the operability evaluation of through-wall leaks in safety system piping was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because the revised flaw characterization and flaw analysis determined that the structural integrity of the pipe met Code acceptance limits.

Inspection Report# : [2007002](#) ([pdf](#))

G

Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

PROCEDURES INAPPROPRIATE TO CIRCUMSTANCES FOR DEGRADED CONTAINMENT LOWER AIRLOCK INNER DOOR SEAL SYSTEM

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during a review of the containment airlock system. Specifically, the inspectors identified that the licensee had failed to implement airlock test and maintenance procedures that were appropriate to the circumstances when the lower airlock seal system was found to be degraded and subject to frequent failure. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution because licensee personnel failed to implement internal operating experience through changes in station processes, procedures, or equipment to address the frequent failures of the lower airlock seal system (P.2(b)). As part of their immediate corrective actions, the licensee initiated a procedure review to determine appropriate torque values and test frequencies for the affected valves. As a long-term corrective action, the licensee planned to replace all affected valves.

The finding was more than minor because it was associated with the Containment Procedure Quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical

design barriers protect the public from radionuclide releases caused by accidents or events. Because the lower airlock outer door containment barrier was determined to be available during the periods when the inner door barrier was affected, the finding was determined to be of very low safety significance.

Inspection Report# : [2007002 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : February 04, 2008

Perry 1

1Q/2008 Plant Inspection Findings

Initiating Events

G

Significance: Dec 14, 2007

Identified By: NRC

Item Type: FIN Finding

FAILURE TO APPROPRIATELY INSTALL DIGITAL FEEDWATER CONTROL POWER SUPPLIES

The Team identified a finding having very low safety significance for improper installation of replacement power supplies in the digital feedwater control system. The Team observed that the orientation of installed replacement power supplies was 90 degrees to that required by the installation manual. The installation manual stated that they must be oriented correctly to assure proper cooling. The finding was not considered a violation of regulatory requirements. Subsequent to identification, the power supplies were reconfigured to the proper orientation.

The finding was determined to be more than minor because it involved the attribute of design control and affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, if left uncorrected the improper installation of the digital feedwater control system power supplies would lead to improper cooling and increase the probability of power supply premature failure. Premature failure could cause a loss of feedwater and a reactor trip. Using IMC 0609, "Significance Determination Process" Appendix A, Phase 1, this finding was determined to screen as a GREEN finding. The primary cause of the performance deficiency was related to the human performance cross-cutting aspect of work practices, in that the licensee failed to ensure adequate supervisory and management oversight of work activities such that nuclear safety is supported H.4(c).

Inspection Report# : [2007010 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER STORAGE OF COMBUSTIBLE MATERIAL

The inspectors identified a finding of very low significance and an associated non-cited violation of the operating license section C(6) for the storage of transient combustible material in the Turbine Building 620' elevation.

Specifically, on May 7 and May 16, 2007, the inspectors identified several acetylene and oxygen cylinders as well as other combustible material in the area that exceeded the fire hazards analysis for the fire zone. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to properly communicate expectations regarding procedural compliance that specified combustible loading of the fire zone. As part of their immediate corrective actions, licensee personnel removed the excess combustible material from the area and entered the issue into their corrective action program.

This finding was more than minor because it was associated with the protection against external factors attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the combustible storage amount exceeded the licensee's fire hazard analysis limits. The finding was determined to be of very low safety significance because the inspectors determined that the combustible materials of significance, that exceeded the fire hazards analysis limits, were in approved containers.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT APPROPRIATE PROCEDURE IN REASSEMBLY OF REACTOR CORE ISOLATION COOLING PIPING

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when reactor water level indication was lost while the reactor was shut down on May 5, 2007.

Specifically, licensee personnel failed to implement appropriate procedures in the re-assembly of reactor core isolation cooling head spray piping during a 1993 refueling outage. This resulted in leakage from a flange connection that affected the reference leg of the reactor shutdown and upset range level indication system, which caused a loss of reactor level indication. As part of their immediate corrective actions, licensee personnel repaired the flange, restored reactor water level indication, and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the equipment performance attribute of the reactor safety Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

Specifically, the finding resulted in a loss of reactor water level indication. The finding was determined to be of very low safety significance because the inspectors determined that it did not result in a loss of control of reactor water level and it did not affect decay heat removal systems.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

MAIN TURBINE GENERATOR TRIPPED ON REVERSE POWER

A finding of very low safety significance was self-revealed when, during reactor power ascension after a refueling outage, the main turbine generator tripped on reverse power on May 13, 2007. The primary cause of this event was licensee personnel's failure to appropriately install an electro-hydraulic control (EHC) circuit card following maintenance. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(a) because the organization failed to properly communicate human error prevention techniques for proper insertion of the control cards. As part of their immediate corrective actions, licensee personnel repaired the installation of the affected card and also repaired the installation of several other EHC system cards that were subsequently identified by the licensee as incorrectly installed. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a turbine trip. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003 \(pdf\)](#)

G

Significance: Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

REACTOR SCRAMMED ON LOW REACTOR WATER LEVEL

A finding of very low safety significance was self-revealed when, during post-modification testing of the feedwater system after a refueling outage, the reactor scrammed on low reactor water level on May 15, 2007. The primary cause of this event was the licensee's failure to appropriately control the implementation of a digital feedwater control system design modification. Specifically, the licensee installed the modification with a control system software logic that was contrary to plant design and this resulted in a loss of feedwater flow to the reactor. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.3(a) because the organization failed to properly plan work activities that incorporated insights to risk. As part of their immediate corrective action, the licensee revised the digital feedwater control system software and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the availability and reliability of equipment attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. Specifically, the finding resulted in a reactor scram. The finding was determined to be of very low safety significance because it did not affect the likelihood that mitigation equipment or functions would be available. No violation of NRC requirements occurred.

Inspection Report# : [2007003 \(pdf\)](#)

Mitigating Systems

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING REACTOR CORE ISOLATION COOLING

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during an inspection of the reactor core isolation cooling (RCIC) system on December 12, 2007. The inspectors observed scaffold construction in the RCIC pump room that was attached to a safety-related RCIC waterleg pump structural support and to the pump base, and was in contact with small diameter waterleg pump piping. The scaffold construction was determined to be contrary to seismic clearance procedural requirements. As part of their immediate corrective actions, licensee personnel removed the affected scaffolding from the RCIC system.

The finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the finding was determined to have placed RCIC in an unacceptable seismic configuration. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.3(a), because the licensee failed to appropriately plan the scaffold work activity by not incorporating the affect on plant structures, systems and components.

Inspection Report# : [2007005](#) (pdf)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A CONDITION ADVERSE TO QUALITY ASSOCIATED WITH SCAFFOLDING CONTACTING THE REACTOR CORE ISOLATION COOLING SYSTEM

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," during an inspection of the reactor core isolation cooling (RCIC) system. On December 12, 2007, the inspectors observed conditions adverse to quality associated with scaffold, erected on October 31, contact affecting the RCIC system. In response to the inspectors' observations, licensee personnel investigated the RCIC room and documented that no issues with scaffold associated with the RCIC system were identified. On December 14, 2007, the inspectors accompanied licensee personnel to the RCIC pump room to point out the conditions. The licensee determined that the conditions were unacceptable and, as part of their immediate corrective actions, licensee personnel removed the scaffold from the RCIC area.

The primary cause of this non-cited violation was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305, P.2(b) because the licensee failed to implement and institutionalize internal operating experience through changes in station processes and procedures.

Inspection Report# : [2007005](#) (pdf)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CONTROL POST- MAINTENANCE TESTING

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," during an inspection of reactor core isolation cooling (RCIC) system testing between December 8 and December 9, 2007. The testing did not adequately incorporate requirements contained in design documents. The inspectors noted: (1) licensee personnel performed a test and later determined that the test was inappropriate; (2) personnel failed to control a test and exceeded a system design limit; and (3) personnel

failed to control system configuration during testing. As part of their immediate corrective actions, operators restored the RCIC system to a normal configuration and performed an evaluation to determine whether system damage had occurred.

The finding was considered more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the failure to properly control the testing caused the system piping design pressure limit to be exceeded. The finding was determined to be of very low safety significance because it did not represent a loss of safety function. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.3(a), because the licensee failed to appropriately plan work activities by incorporating planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2007005](#) (pdf)

G

Significance: G Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION TO ADDRESS EXTENT OF CONDITION FOR NONCONFORMING CONDITIONS AFFECTING THE DIVISION 1 EDG

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," when a nonconforming condition associated with the Division 1 Emergency Diesel Generator was discovered on November 16, 2007. One cylinder head stud was torqued below the minimum required torque setting. The inspectors determined that the licensee failed to perform an appropriate extent-of-condition review when several cylinder head studs were found below minimum torque level on November 13, 2006. Also, the licensee did not perform an extent-of-condition review during a subsequent refueling outage when both emergency diesel generators were available for maintenance. As part of its immediate corrective actions, the licensee entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Equipment Performance attribute of the Reactor Safety Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding addressed a lack of timely corrective action that adversely impacted the amount of time that the emergency diesel generator was subject to a degraded condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of operability. The primary cause of this finding was related to the cross cutting area of Problem Identification and Resolution per IMC 0305 P.1(d) because the licensee failed to take appropriate corrective action to address safety issues in a timely manner.

Inspection Report# : [2007005](#) (pdf)

G

Significance: G Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECT LACK OF AN ALTERNATE DECAY HEAT REMOVAL SYSTEM IN A TIMELY MANNER - RESULTS IN OPERATION PROHIBITED BY TECHNICAL SPECIFICATIONS

A finding of very low safety significance and an associated non cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was self revealed on July 11, 2007, when the licensee failed to assure that deficiencies associated with alternate decay heat removal capability were corrected in a timely manner. Technical Specification (TS) 3.4.10 required the licensee to verify the availability of an alternate method of decay heat removal when a residual heat removal shutdown cooling subsystem was inoperable. On May 23, 2004, the licensee was unable to meet this requirement due to the lack of an approved alternate decay heat removal system. On July 11, 2007, operators were again unable to meet TS requirements because the lack of an alternate decay heat removal system deficiency had not been corrected. As part of their immediate corrective actions, the licensee entered the issue into their corrective action program and planned to complete a design change to install an alternate decay heat removal system.

This finding was more than minor because it was related to the Equipment Performance attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability of a mitigating system that responds to initiating events to prevent undesirable consequences. Specifically, the finding affected the availability of

a decay heat removal system. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance because the licensee restored shutdown cooling within two hours and the plant remained in Mode 4. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.2(a), because the licensee failed to minimize long standing equipment issues and maintenance deferral.

Inspection Report# : [2007005](#) (pdf)

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES RESULTS IN TEMPORARY LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a non cited violation of Technical Specification 5.4, "Procedures," was self-revealed when a loss of cooling water flow to the reactor occurred while the reactor was shutdown on July 11, 2007. A maintenance technician failed to adhere to procedures while performing a surveillance test and performed an action that caused the 'B' residual heat removal pump to trip. The 'B' residual heat removal pump was providing cooling water flow to the reactor when the pump trip occurred. As part of their immediate corrective actions, licensee personnel restored shutdown cooling water flow to the reactor by placing the 'A' residual heat removal loop in service and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Equipment Performance attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a disruption of reactor decay heat removal while the reactor was shutdown. The finding was determined to be of very low safety significance after a Phase 3 Significance Determination Process review. The primary cause of this finding was related to the cross cutting area of Human Performance per IMC 0305 H.3(b) because the organization failed to keep personnel apprised of plant conditions that affect the work.

Inspection Report# : [2007005](#) (pdf)

G

Significance: Sep 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES DISABLED EMERGENCY DIESEL OVERSPEED TRIP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when the Division 2 emergency diesel generator failed to trip during surveillance testing on August 20, 2007. Specifically, operators failed to position an overspeed trip reset valve in accordance with diesel startup procedures on August 19, 2007, and this disabled the essential overspeed trip function of the diesel. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to communicate and use human error prevention techniques commensurate with the risk of the assigned task. As part of their immediate corrective actions, licensee personnel restored the diesel to the appropriate equipment alignment and conducted additional training for operators on procedure adherence.

The finding was more than minor because it was associated with the Human Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding adversely affected an essential trip feature designed to protect the diesel from an overspeed condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function.

Inspection Report# : [2007004](#) (pdf)

G**Significance:** Dec 31, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE OF DESIGN CONTROL LEADING TO DROP OF FUEL CHANNEL ONTO SPENT FUEL

A finding of very low safety significance was self-revealed on October 18, 2007, when a fuel channel dislodged from a grapple during movement in the spent fuel pool. The licensee implemented a design change to the spent fuel handling bridge grapple system that resulted in an inadequate method of verification for grapple attachment to the fuel channel. The fuel channel was inadequately attached to the grapple and dropped onto several spent fuel assemblies. As part of their immediate corrective actions, licensee personnel reinstated the previous grapple design that allowed for positive visual verification of grapple attachment and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the design control attribute of the reactor safety Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding resulted in an event that challenged spent fuel cladding barrier. Although not suitable for Significance Determination Process review, the finding was determined to be of very low safety significance because the dropped fuel channel did not cause damage to the spent fuel. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.2(d) because the organization failed to ensure that equipment, including physical improvements, was adequate to assure nuclear safety.

Inspection Report# : [2007005 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G**Significance:** Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEVELOP AN ACCURATE DOSE ESTIMATE FOR SCAFFOLDING WORK AND TO MAINTAIN WORKERS' DOSES ALARA

The inspectors identified a finding of very low safety significance and a non cited violation of Technical Specification 5.4.1.a was for the failure to adequately implement radiological dose controls as a result of ineffective radiological/As Low As Is Reasonably-Achievable (ALARA) planning and control during Refueling Outage Number 11. The total sum of the occupational radiation doses (collective dose) received by individuals for certain work activities was found in excess of that collective dose planned or intended (i.e., that dose the licensee determined was ALARA for those work activities). Corrective actions included the assignment of high impact teams to address and evaluate lessons learned from the refuel outage.

The finding was more than minor because the finding was associated with the Occupational Radiation Safety Cornerstone attribute of ALARA planning/dose projection, and affected the cornerstone objective of programs and processes for ensuring adequate protection of worker health and safety from exposure to radiation. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. It did involve ALARA planning and controls; however, the 3-year rolling average for Perry station is less than the Significance Determination Process (SDP) threshold of 240-person-rem for boiling water reactors. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety significance. The finding was determined to be associated with a cross cutting aspect in the area of Human Performance per IMC 0305 H.3(a) in work controls.

Inspection Report# : [2007005 \(pdf\)](#)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : June 05, 2008

Perry 1

2Q/2008 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO IDENTIFY A DEGRADED FLOW CONTROL VALVE CONNECTOR

The inspectors identified a finding of very low safety significance for the failure of licensee personnel to adhere to corrective action program procedures. Specifically, during inspection of the linear velocity transducer connector for the 'A' flow control valve actuator, the connector was found in a degraded state, and personnel applied tape to the connector. Licensee personnel did not initiate a condition report to address this condition or to assess operability, and the connector later failed causing reactor flow and power oscillations. The licensee entered the issue of failure to adhere to corrective action program procedures into their corrective action program. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to properly identify issues related to nuclear safety P.1(a).

This finding was considered more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because no mitigation equipment or functions were affected. No violation of NRC requirements occurred.

Inspection Report# : [2008003 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT ADEQUATE CONFIGURATION CONTROL AFFECTING 'A' REACTOR WATER CLEANUP SYSTEM

A finding of very low safety significance and a non-cited violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed on January 4, 2008, when reactor steam was observed coming from the from the 'A' reactor water cleanup (RWCU) system as operators opened the pump suction shutoff valve. A system isolation valve that was danger-tagged as shut to provide double-boundary protection from the reactor coolant system was found in the open position. At the time of the event, licensee personnel were in the process of restoring the 'A' RWCU pump to service following maintenance and the reactor was at rated power and pressure. As part of their immediate corrective actions, licensee personnel isolated the leak, performed a system alignment, and entered this issue into their corrective action program.

The finding was considered more than minor because it was associated with the Human Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power functions. Specifically, the finding resulted in a reactor coolant leak to the safety-related auxiliary building. The finding was determined to be of very low safety significance because the reactor water leak was readily isolable. The primary cause of this finding was related to the cross-cutting area of Human Performance as defined by IMC 0305 H.1(b) because licensee personnel failed to use conservative assumptions in decision making associated with the valve tagging procedure.

Inspection Report# : [2008002 \(pdf\)](#)

Significance: SL-IV May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAKE 10 CFR 50.72 REPORT

The inspectors identified a non-cited violation of 10 CFR Part 50.72(b)(2)(iv)(B), "Four Hour Reports." The inspectors determined that the licensee failed to report a manual actuation of the reactor protection system when it was not part of a preplanned sequence. Specifically, on June 22, 2007, the 'B' reactor recirculation pump failed during a plant shutdown sequence and the licensee inserted a manual scram above preplanned power levels and not in accordance with the preplanned sequence. Licensee operators decided to insert the manual scram earlier than planned due to the unexpected loss of flow in the 'B' reactor recirculation system loop.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO REPORT TIMELY PERFORMANCE INDICATOR INFORMATION

The inspectors identified a finding associated with the licensee's reporting of Unplanned Scram Performance Indicator (PI) data for the second quarter 2007. On July 23, 2007, Perry plant personnel submitted PI data to the NRC that included one unplanned scram for the second quarter of 2007. In August 2007, the inspectors informed the licensee that the NRC disagreed with the reported number of unplanned scrams. The inspectors determined that the licensee failed to pursue resolution of the discrepancy in a timely manner in accordance with established industry standards.

The finding was considered more than minor because it was related to a PI and would have caused the PI to exceed a threshold. Had all three unplanned scrams been reported in July 2007, the Unplanned Scram PI would have crossed the Green to White threshold. The finding was determined to be of very low safety significance after management review.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: Dec 14, 2007

Identified By: NRC

Item Type: FIN Finding

FAILURE TO APPROPRIATELY INSTALL DIGITAL FEEDWATER CONTROL POWER SUPPLIES

The Team identified a finding having very low safety significance for improper installation of replacement power supplies in the digital feedwater control system. The Team observed that the orientation of installed replacement power supplies was 90 degrees to that required by the installation manual. The installation manual stated that they must be oriented correctly to assure proper cooling. The finding was not considered a violation of regulatory requirements. Subsequent to identification, the power supplies were reconfigured to the proper orientation.

The finding was determined to be more than minor because it involved the attribute of design control and affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, if left uncorrected the improper installation of the digital feedwater control system power supplies would lead to improper cooling and increase the probability of power supply premature failure. Premature failure could cause a loss of feedwater and a reactor trip. Using IMC 0609, "Significance Determination Process" Appendix A, Phase 1, this finding was determined to screen as a GREEN finding. The primary cause of the performance deficiency was related to the human performance cross-cutting aspect of work practices, in that the licensee failed to ensure adequate supervisory and management oversight of work activities such that nuclear safety is supported H.4(c).

Inspection Report# : [2007010 \(pdf\)](#)

Mitigating Systems

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILED TO PERFORM AN ADEQUATE DESIGN REVIEW FOR EXPECTED CONDITIONS OF THE OFFSITE POWER SUPPLY IN DETERMINING DESIGN INPUTS FOR EVALUATING THE EFFECTS OF OFFSITE VOLTAGE

• Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the failure to ensure that the design limits in electrical calculations bound expected operational values. Specifically, the licensee failed to perform an adequate design review for expected conditions of the offsite power supply in determining design inputs for evaluating the effects of offsite voltage on plant equipment and to ensure that proper design control was maintained. During the inspection, the licensee evaluated the conditions and determined that the higher than analyzed offsite power system voltage did not have an impact on the operability of plant equipment. The cause of the finding is related to the cross-cutting area of Problem Identification and Resolution, specifically with respect to Corrective Action Program, because the licensee failed to evaluate and determine the extent of condition of the voltage in the offsite power supply. P.1(c) (Section 1R21.3.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE THAT EQUIPMENT INSTALLED IN THE PLANT WAS IN ACCORDANCE WITH THE DESIGN DOCUMENTATION

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the failure to ensure that equipment installed in the plant was in accordance with the design documentation. The inspectors identified several examples of equipment installed in the plant with electrical characteristics that varied from the design documentation. These conditions were subsequently evaluated and determined not to affect the operability of the equipment. This finding has a cross-cutting aspect in the area of Human Performance, Resources because the licensee did not ensure that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety. H.2(c) (Section 1R21.3.b(2))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT ERRORS AND DISCREPANCIES IN SEISMIC QUALIFICATION DOCUMENTS FOR THE STANDBY LIQUID CONTROL (SLC) STORAGE TANK

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the failure to identify and correct errors and discrepancies in seismic qualification documents for the Standby Liquid Control (SLC) storage tank. Subsequent licensee evaluation indicated that stresses in the critical SLC tank components will remain within the acceptance limits. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.3.b(3))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TEST REACTOR PROTECTION SYSTEM KEY LOCKED BYPASS SWITCHES

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” was identified by the inspectors for the failure to test reactor protection system key locked bypass switches. The licensee entered this issue into its corrective action program and initiated procedural changes to require periodic testing of the RPS bypass switches. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.5.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ADEQUACY OF MAINTENANCE ASSOCIATED WITH EMERGENCY SERVICE WATER STRAINER FAILURE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed when the 'B' emergency service water (ESW) system pump discharge strainer failed on December 27, 2007. A strainer inspection cover, about 6 inches wide and 9 inches tall, became dislodged due to a loose fastener, and water discharged into the ESW pump house when the 'B' ESW pump was started. The strainer was last worked during a refueling outage in April 2007. The maintenance procedures associated with the strainer were determined to be inappropriate because they resulted in the unexpected failure of the strainer cover. As part of their immediate corrective actions, licensee personnel revised strainer cover installation procedures, repaired the strainer, and restored availability of the 'B' ESW system.

The finding was considered more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the finding resulted in the unavailability of the 'B' ESW system train. The finding was determined to be of very low safety significance because it did not represent an actual loss of safety function of a single train for greater than the TS-allowed outage time.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CORRECT AND EVALUATE A CONDITION AFFECTING THE ESW PUMP AND ITS ASSOCIATED DISCHARGE VALVES

The inspectors identified a finding having very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to adequately evaluate and take appropriate corrective actions for a condition adverse to quality affecting the Emergency Service Water (ESW) Pump 'A' and its associated discharge valve. Specifically, the licensee did not implement adequate actions to ensure that the ESW Pump 'A' discharge valve (1P45F0130A) would remain open and would not be damaged during the loss of direct current (DC) Bus ED-1-A while the pump was in operation. In addition, the licensee did not identify and evaluate the impact of this condition on the plant=s safe shutdown equipment in the event of an Appendix R fire in the control room. The licensee entered the issue into their corrective action program.

This finding was more than minor because the failure to assure that the ESW Pump 'A' discharge valve would remain open and would not be damaged affected the mitigating system corner stone objective of ensuring the availability, reliability and capability of the safety-related components to respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because the specific condition/scenario only affected the ESW Pump 'A' and its associated discharge valve and it did not exist for the redundant ESW Pump 'B'. In addition, safe shutdown components for the Division 2 and/or Division 3 systems would remain available, free of fire damage, to safely shut down the plant in the event of a fire in the control room. The finding has a cross-cutting aspect in the area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c), because the licensee failed to thoroughly evaluate the problem when it was first identified in 2006.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

ADEQUACY OF REACTOR CORE ISOLATION COOLING SYSTEM FLOW CONTROLLER TUNING PROCEDURES

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed during the reactor scram and plant response on November 28, 2007, when reactor core isolation cooling (RCIC) failed to perform its design function. The RCIC system started automatically on low reactor water level, began to inject into the reactor pressure vessel, and then tripped on low suction pressure. The

RCIC pump flow controller was found to have been incorrectly tuned in January 2006. As part of their immediate corrective actions, licensee personnel tuned the RCIC controller prior to the December 6, 2007, plant startup.

The finding was considered more than minor because it was associated with Equipment Reliability attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. The finding was determined, through Phase 3 analysis, to be of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution as defined in IMC 0305 P.2(b) because the licensee failed to institutionalize operating experience through changes to procedures regarding flow controller settings.

Inspection Report# : [2008002](#) (pdf)

Significance: N/A May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TEST CONTROL PROGRAM TO ENSURE REACTOR CORE ISOLATION COOLING SYSTEM OPERABILITY

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," associated with testing of the reactor core isolation cooling (RCIC) system between January 20, 2006, and November 28, 2007, a period when RCIC was determined to have been inoperable. Specifically, the program failed to incorporate the requirements and acceptance limits contained in applicable design documents to assure that RCIC flow controller configuration and performance met design requirements during testing.

Inspection Report# : [2008002](#) (pdf)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TESTING OF THE REACTOR CORE ISOLATION COOLING INSTRUMENT LINES WITH APPROPRIATE PROCEDURES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," while observing a periodic test associated with the reactor core isolation cooling (RCIC) system on February 14, 2008. The inspectors determined that the licensee's procedure was inappropriate for the circumstances of the test. Specifically, the purpose of the test was to detect and quantify gas formation in RCIC system piping and the procedure did not provide an adequate method to determine whether acceptance criteria were met. The repeated performance of the test resulted in the unnecessary inoperability of the RCIC system.

This finding was greater than minor because it adversely affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the performance of the test affected the capability of the RCIC system to respond to events. The finding was of very low safety significance because the time RCIC was inoperable was less than TS-allowed inoperability time. The primary cause of this finding was related to the cross-cutting area of Human Performance as defined by Inspection Manual Chapter 0305 H.2(c), because the licensee failed to provide complete and accurate procedures related to nuclear safety. As part of their immediate corrective action, the licensee revised the test procedure.

Inspection Report# : [2008002](#) (pdf)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE (NON)-RECURRANCE OF REACTOR CORE ISOLATION COOLING INOPERABILITY DUE TO IMPROPER CONTROLLER SETTINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," when the reactor core isolation cooling (RCIC) system was declared inoperable on December 12, 2007, due to improper flow controller settings. The inspectors noted that the cause of

RCIC inoperability on December 12, 2007, was the same cause of RCIC inoperability from January 21, 2006, to November 28, 2007. The licensee failed to perform adequate corrective actions to preclude repetition of a significant condition adverse to quality. As part of their immediate corrective actions, the licensee entered the issue into the corrective action program and adjusted flow controller settings to 1987 pre-startup settings when RCIC successfully injected into the reactor pressure vessel.

The finding was more than minor because it was associated with the Equipment Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the controller settings affected the capability of the RCIC system to respond to initiating events as designed. The finding was determined to be of very low safety significance because it was determined that the period of inoperability was less than the TS-allowed outage time. The primary cause of this finding was related to the cross cutting area of Problem Identification and Resolution as defined in Inspection Manual Chapter 0305 P.2(a) because the licensee failed to communicate relevant external operating experience in a timely manner.

Inspection Report# : [2008002](#) ([pdf](#))

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CLASSIFICATION OF CONDITION REPORT FOR REACTOR CORE ISOLATION COOLING

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," during a review of the licensee's treatment of the safety-related reactor core isolation cooling (RCIC) system's failure to perform its safety function when called upon during an event. On November 28, 2007, the licensee experienced an unplanned scram with complications that included a failure of the feedwater system affecting all feed pumps. During the event, RCIC failed to function as designed when aligned to the suppression pool and when re-aligned to the condensate storage tank. Licensee personnel failed to identify the RCIC failures as a significant condition adverse to quality within their corrective action program. As part of their immediate corrective actions, licensee personnel reclassified the condition as a significant condition adverse to quality.

The finding was considered more than minor because the failure to identify significant conditions adverse to quality would become a more significant safety concern if left uncorrected. The finding was determined to be of very low safety significance after management review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution as defined in Inspection Manual Chapter IMC 0305 P.1(a), because the licensee failed to identify the issue completely, accurately, and in a timely manner commensurate with its safety significance.

Inspection Report# : [2008002](#) ([pdf](#))

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING REACTOR CORE ISOLATION COOLING

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during an inspection of the reactor core isolation cooling (RCIC) system on December 12, 2007. The inspectors observed scaffold construction in the RCIC pump room that was attached to a safety-related RCIC waterleg pump structural support and to the pump base, and was in contact with small diameter waterleg pump piping. The scaffold construction was determined to be contrary to seismic clearance procedural requirements. As part of their immediate corrective actions, licensee personnel removed the affected scaffolding from the RCIC system.

The finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the finding was determined to have placed RCIC in an unacceptable seismic configuration. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.3(a), because the licensee failed to appropriately plan the scaffold work activity by not incorporating the affect on plant structures,

systems and components.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A CONDITION ADVERSE TO QUALITY ASSOCIATED WITH SCAFFOLDING CONTACTING THE REACTOR CORE ISOLATION COOLING SYSTEM

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," during an inspection of the reactor core isolation cooling (RCIC) system. On December 12, 2007, the inspectors observed conditions adverse to quality associated with scaffold, erected on October 31, contact affecting the RCIC system. In response to the inspectors' observations, licensee personnel investigated the RCIC room and documented that no issues with scaffold associated with the RCIC system were identified. On December 14, 2007, the inspectors accompanied licensee personnel to the RCIC pump room to point out the conditions. The licensee determined that the conditions were unacceptable and, as part of their immediate corrective actions, licensee personnel removed the scaffold from the RCIC area.

The primary cause of this non-cited violation was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305, P.2(b) because the licensee failed to implement and institutionalize internal operating experience through changes in station processes and procedures.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CONTROL POST- MAINTENANCE TESTING

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," during an inspection of reactor core isolation cooling (RCIC) system testing between December 8 and December 9, 2007. The testing did not adequately incorporate requirements contained in design documents. The inspectors noted: (1) licensee personnel performed a test and later determined that the test was inappropriate; (2) personnel failed to control a test and exceeded a system design limit; and (3) personnel failed to control system configuration during testing. As part of their immediate corrective actions, operators restored the RCIC system to a normal configuration and performed an evaluation to determine whether system damage had occurred.

The finding was considered more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the failure to properly control the testing caused the system piping design pressure limit to be exceeded. The finding was determined to be of very low safety significance because it did not represent a loss of safety function. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.3(a), because the licensee failed to appropriately plan work activities by incorporating planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION TO ADDRESS EXTENT OF CONDITION FOR NONCONFORMING CONDITIONS AFFECTING THE DIVISION 1 EDG

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," when a nonconforming condition associated with the Division 1 Emergency Diesel Generator was discovered on November 16, 2007. One cylinder head stud was torqued below the minimum required torque setting. The inspectors determined that the licensee failed to perform an appropriate extent-of-

condition review when several cylinder head studs were found below minimum torque level on November 13, 2006. Also, the licensee did not perform an extent-of-condition review during a subsequent refueling outage when both emergency diesel generators were available for maintenance. As part of its immediate corrective actions, the licensee entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Equipment Performance attribute of the Reactor Safety Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding addressed a lack of timely corrective action that adversely impacted the amount of time that the emergency diesel generator was subject to a degraded condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of operability. The primary cause of this finding was related to the cross cutting area of Problem Identification and Resolution per IMC 0305 P.1(d) because the licensee failed to take appropriate corrective action to address safety issues in a timely manner.

Inspection Report# : [2007005](#) ([pdf](#))

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECT LACK OF AN ALTERNATE DECAY HEAT REMOVAL SYSTEM IN A TIMELY MANNER - RESULTS IN OPERATION PROHIBITED BY TECHNICAL SPECIFICATIONS

A finding of very low safety significance and an associated non cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was self revealed on July 11, 2007, when the licensee failed to assure that deficiencies associated with alternate decay heat removal capability were corrected in a timely manner. Technical Specification (TS) 3.4.10 required the licensee to verify the availability of an alternate method of decay heat removal when a residual heat removal shutdown cooling subsystem was inoperable. On May 23, 2004, the licensee was unable to meet this requirement due to the lack of an approved alternate decay heat removal system. On July 11, 2007, operators were again unable to meet TS requirements because the lack of an alternate decay heat removal system deficiency had not been corrected. As part of their immediate corrective actions, the licensee entered the issue into their corrective action program and planned to complete a design change to install an alternate decay heat removal system.

This finding was more than minor because it was related to the Equipment Performance attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability of a mitigating system that responds to initiating events to prevent undesirable consequences. Specifically, the finding affected the availability of a decay heat removal system. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance because the licensee restored shutdown cooling within two hours and the plant remained in Mode 4. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.2(a), because the licensee failed to minimize long standing equipment issues and maintenance deferral.

Inspection Report# : [2007005](#) ([pdf](#))

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES RESULTS IN TEMPORARY LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a non cited violation of Technical Specification 5.4, "Procedures," was self-revealed when a loss of cooling water flow to the reactor occurred while the reactor was shutdown on July 11, 2007. A maintenance technician failed to adhere to procedures while performing a surveillance test and performed an action that caused the 'B' residual heat removal pump to trip. The 'B' residual heat removal pump was providing cooling water flow to the reactor when the pump trip occurred. As part of their immediate corrective actions, licensee personnel restored shutdown cooling water flow to the reactor by placing the 'A' residual heat removal loop in service and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Equipment Performance attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant

stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a disruption of reactor decay heat removal while the reactor was shutdown. The finding was determined to be of very low safety significance after a Phase 3 Significance Determination Process review. The primary cause of this finding was related to the cross cutting area of Human Performance per IMC 0305 H.3(b) because the organization failed to keep personnel apprised of plant conditions that affect the work.

Inspection Report# : [2007005](#) (pdf)

G

Significance: Sep 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES DISABLED EMERGENCY DIESEL OVERSPEED TRIP

A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when the Division 2 emergency diesel generator failed to trip during surveillance testing on August 20, 2007. Specifically, operators failed to position an overspeed trip reset valve in accordance with diesel startup procedures on August 19, 2007, and this disabled the essential overspeed trip function of the diesel. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.4(b) because the licensee failed to communicate and use human error prevention techniques commensurate with the risk of the assigned task. As part of their immediate corrective actions, licensee personnel restored the diesel to the appropriate equipment alignment and conducted additional training for operators on procedure adherence.

The finding was more than minor because it was associated with the Human Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding adversely affected an essential trip feature designed to protect the diesel from an overspeed condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function.

Inspection Report# : [2007004](#) (pdf)

Barrier Integrity

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

LOSS OF SAFETY FUNCTION OF THE ANNULUS EXHAUST GAS TREATMENT SYSTEM

A finding of very low safety significance and a non cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed when a loss of the annulus exhaust gas treatment system (AEGTS) safety function occurred on December 21, 2007. Maintenance procedures failed to include adequate instructions and acceptance criteria related for a hydramotor assembly and this resulted in the inoperability of the 'B' AEGTS train while the 'A' train was inoperable for charcoal sampling. As part of their immediate corrective actions, licensee personnel restored 'A' train to operable status and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Procedure Quality attribute related to maintenance of containment function of the Barrier Integrity cornerstone and affected the cornerstone objective of reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the finding was determined to have resulted in a degraded condition of secondary containment. The finding was of very low safety significance because the finding only represented a degradation of the radiological barrier function. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.2(c), because the licensee failed to provide complete and accurate procedures related to nuclear safety.

Inspection Report# : [2008002](#) (pdf)

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE OF DESIGN CONTROL LEADING TO DROP OF FUEL CHANNEL ONTO SPENT FUEL

A finding of very low safety significance was self-revealed on October 18, 2007, when a fuel channel dislodged from a grapple during movement in the spent fuel pool. The licensee implemented a design change to the spent fuel handling bridge grapple system that resulted in an inadequate method of verification for grapple attachment to the fuel channel. The fuel channel was inadequately attached to the grapple and dropped onto several spent fuel assemblies. As part of their immediate corrective actions, licensee personnel reinstated the previous grapple design that allowed for positive visual verification of grapple attachment and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the design control attribute of the reactor safety Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding resulted in an event that challenged spent fuel cladding barrier. Although not suitable for Significance Determination Process review, the finding was determined to be of very low safety significance because the dropped fuel channel did not cause damage to the spent fuel. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.2(d) because the organization failed to ensure that equipment, including physical improvements, was adequate to assure nuclear safety.

Inspection Report# : [2007005 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: **G** Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEVELOP AN ACCURATE DOSE ESTIMATE FOR SCAFFOLDING WORK AND TO MAINTAIN WORKERS' DOSES ALARA

The inspectors identified a finding of very low safety significance and a non cited violation of Technical Specification 5.4.1.a was for the failure to adequately implement radiological dose controls as a result of ineffective radiological/As Low As Is Reasonably-Achievable (ALARA) planning and control during Refueling Outage Number 11. The total sum of the occupational radiation doses (collective dose) received by individuals for certain work activities was found in excess of that collective dose planned or intended (i.e., that dose the licensee determined was ALARA for those work activities). Corrective actions included the assignment of high impact teams to address and evaluate lessons learned from the refuel outage.

The finding was more than minor because the finding was associated with the Occupational Radiation Safety Cornerstone attribute of ALARA planning/dose projection, and affected the cornerstone objective of programs and processes for ensuring adequate protection of worker health and safety from exposure to radiation. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. It did involve ALARA planning and controls; however, the 3-year rolling average for Perry station is less than the Significance Determination Process (SDP) threshold of 240-person-rem for boiling water reactors. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety significance. The finding was determined to be associated with a cross cutting aspect in the area of Human Performance per IMC 0305 H.3(a) in work controls.

Inspection Report# : [2007005 \(pdf\)](#)

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2008

Perry 1

3Q/2008 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO IDENTIFY A DEGRADED FLOW CONTROL VALVE CONNECTOR

The inspectors identified a finding of very low safety significance for the failure of licensee personnel to adhere to corrective action program procedures. Specifically, during inspection of the linear velocity transducer connector for the 'A' flow control valve actuator, the connector was found in a degraded state, and personnel applied tape to the connector. Licensee personnel did not initiate a condition report to address this condition or to assess operability, and the connector later failed causing reactor flow and power oscillations. The licensee entered the issue of failure to adhere to corrective action program procedures into their corrective action program. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to properly identify issues related to nuclear safety P.1(a).

This finding was considered more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because no mitigation equipment or functions were affected. No violation of NRC requirements occurred.

Inspection Report# : [2008003 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT ADEQUATE CONFIGURATION CONTROL AFFECTING 'A' REACTOR WATER CLEANUP SYSTEM

A finding of very low safety significance and a non-cited violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed on January 4, 2008, when reactor steam was observed coming from the from the 'A' reactor water cleanup (RWCU) system as operators opened the pump suction shutoff valve. A system isolation valve that was danger-tagged as shut to provide double-boundary protection from the reactor coolant system was found in the open position. At the time of the event, licensee personnel were in the process of restoring the 'A' RWCU pump to service following maintenance and the reactor was at rated power and pressure. As part of their immediate corrective actions, licensee personnel isolated the leak, performed a system alignment, and entered this issue into their corrective action program.

The finding was considered more than minor because it was associated with the Human Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power functions. Specifically, the finding resulted in a reactor coolant leak to the safety-related auxiliary building. The finding was determined to be of very low safety significance because the reactor water leak was readily isolable. The primary cause of this finding was related to the cross-cutting area of Human Performance as defined by IMC 0305 H.1(b) because licensee personnel failed to use conservative assumptions in decision making associated with the valve tagging procedure.

Inspection Report# : [2008002 \(pdf\)](#)

Significance: SL-IV May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAKE 10 CFR 50.72 REPORT

The inspectors identified a non-cited violation of 10 CFR Part 50.72(b)(2)(iv)(B), "Four Hour Reports." The inspectors determined that the licensee failed to report a manual actuation of the reactor protection system when it was not part of a preplanned sequence. Specifically, on June 22, 2007, the 'B' reactor recirculation pump failed during a plant shutdown sequence and the licensee inserted a manual scram above preplanned power levels and not in accordance with the preplanned sequence. Licensee operators decided to insert the manual scram earlier than planned due to the unexpected loss of flow in the 'B' reactor recirculation system loop.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO REPORT TIMELY PERFORMANCE INDICATOR INFORMATION

The inspectors identified a finding associated with the licensee's reporting of Unplanned Scram Performance Indicator (PI) data for the second quarter 2007. On July 23, 2007, Perry plant personnel submitted PI data to the NRC that included one unplanned scram for the second quarter of 2007. In August 2007, the inspectors informed the licensee that the NRC disagreed with the reported number of unplanned scrams. The inspectors determined that the licensee failed to pursue resolution of the discrepancy in a timely manner in accordance with established industry standards.

The finding was considered more than minor because it was related to a PI and would have caused the PI to exceed a threshold. Had all three unplanned scrams been reported in July 2007, the Unplanned Scram PI would have crossed the Green to White threshold. The finding was determined to be of very low safety significance after management review.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: Dec 14, 2007

Identified By: NRC

Item Type: FIN Finding

FAILURE TO APPROPRIATELY INSTALL DIGITAL FEEDWATER CONTROL POWER SUPPLIES

The Team identified a finding having very low safety significance for improper installation of replacement power supplies in the digital feedwater control system. The Team observed that the orientation of installed replacement power supplies was 90 degrees to that required by the installation manual. The installation manual stated that they must be oriented correctly to assure proper cooling. The finding was not considered a violation of regulatory requirements. Subsequent to identification, the power supplies were reconfigured to the proper orientation.

The finding was determined to be more than minor because it involved the attribute of design control and affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, if left uncorrected the improper installation of the digital feedwater control system power supplies would lead to improper cooling and increase the probability of power supply premature failure. Premature failure could cause a loss of feedwater and a reactor trip. Using IMC 0609, "Significance Determination Process" Appendix A, Phase 1, this finding was determined to screen as a GREEN finding. The primary cause of the performance deficiency was related to the human performance cross-cutting aspect of work practices, in that the licensee failed to ensure adequate supervisory and management oversight of work activities such that nuclear safety is supported H.4(c).

Inspection Report# : [2007010 \(pdf\)](#)

Mitigating Systems

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILED TO PERFORM AN ADEQUATE DESIGN REVIEW FOR EXPECTED CONDITIONS OF THE OFFSITE POWER SUPPLY IN DETERMINING DESIGN INPUTS FOR EVALUATING THE EFFECTS OF OFFSITE VOLTAGE

• Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to ensure that the design limits in electrical calculations bound expected operational values. Specifically, the licensee failed to perform an adequate design review for expected conditions of the offsite power supply in determining design inputs for evaluating the effects of offsite voltage on plant equipment and to ensure that proper design control was maintained. During the inspection, the licensee evaluated the conditions and determined that the higher than analyzed offsite power system voltage did not have an impact on the operability of plant equipment. The cause of the finding is related to the cross-cutting area of Problem Identification and Resolution, specifically with respect to Corrective Action Program, because the licensee failed to evaluate and determine the extent of condition of the voltage in the offsite power supply. P.1(c) (Section 1R21.3.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE THAT EQUIPMENT INSTALLED IN THE PLANT WAS IN ACCORDANCE WITH THE DESIGN DOCUMENTATION

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to ensure that equipment installed in the plant was in accordance with the design documentation. The inspectors identified several examples of equipment installed in the plant with electrical characteristics that varied from the design documentation. These conditions were subsequently evaluated and determined not to affect the operability of the equipment. This finding has

a cross-cutting aspect in the area of Human Performance, Resources because the licensee did not ensure that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety. H.2(c) (Section 1R21.3.b(2))
Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT ERRORS AND DISCREPANCIES IN SEISMIC QUALIFICATION DOCUMENTS FOR THE STANDBY LIQUID CONTROL (SLC) STORAGE TANK

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to identify and correct errors and discrepancies in seismic qualification documents for the Standby Liquid Control (SLC) storage tank. Subsequent licensee evaluation indicated that stresses in the critical SLC tank components will remain within the acceptance limits. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.3.b(3))
Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TEST REACTOR PROTECTION SYSTEM KEY LOCKED BYPASS SWITCHES

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the failure to test reactor protection system key locked bypass switches. The licensee entered this issue into its corrective action program and initiated procedural changes to require periodic testing of the RPS bypass switches. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.5.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ADEQUACY OF MAINTENANCE ASSOCIATED WITH EMERGENCY SERVICE WATER STRAINER FAILURE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed when the 'B' emergency service water (ESW) system pump discharge strainer failed on December 27, 2007. A strainer inspection cover, about 6 inches wide and 9 inches tall, became dislodged due to a loose fastener, and water discharged into the ESW pump house when the 'B' ESW pump was started. The strainer was last worked during a refueling outage in April 2007. The maintenance procedures associated with the strainer were determined to be inappropriate because they resulted in the unexpected failure of the strainer cover. As part of their immediate corrective actions, licensee personnel revised strainer cover installation procedures, repaired the strainer, and restored availability of the 'B' ESW system.

The finding was considered more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the finding resulted in the unavailability of the 'B' ESW system train. The finding was determined to be of very low safety significance because it did not represent an actual loss of safety function of a single train for greater than the TS-allowed outage time.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CORRECT AND EVALUATE A CONDITION AFFECTING THE ESW PUMP AND ITS ASSOCIATED DISCHARGE VALVES

The inspectors identified a finding having very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to adequately evaluate and take appropriate corrective actions for a condition adverse to quality affecting the Emergency Service Water (ESW) Pump 'A' and its associated discharge valve. Specifically, the licensee did not implement adequate actions to ensure that the ESW Pump 'A' discharge valve (1P45F0130A) would remain open and would not be damaged during the loss of direct current (DC) Bus ED-1-A while the pump was in operation. In addition, the licensee did not identify and evaluate the impact of this condition on the plant's safe shutdown equipment in the event of an Appendix R fire in the control room. The licensee entered the issue into their corrective action program.

This finding was more than minor because the failure to assure that the ESW Pump 'A' discharge valve would remain open and would not be damaged affected the mitigating system cornerstone objective of ensuring the availability, reliability and capability of the safety-related components to respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance based on a

Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because the specific condition/scenario only affected the ESW Pump 'A' and its associated discharge valve and it did not exist for the redundant ESW Pump 'B'. In addition, safe shutdown components for the Division 2 and/or Division 3 systems would remain available, free of fire damage, to safely shut down the plant in the event of a fire in the control room. The finding has a cross-cutting aspect in the area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c), because the licensee failed to thoroughly evaluate the problem when it was first identified in 2006.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

ADEQUACY OF REACTOR CORE ISOLATION COOLING SYSTEM FLOW CONTROLLER TUNING PROCEDURES

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed during the reactor scram and plant response on November 28, 2007, when reactor core isolation cooling (RCIC) failed to perform its design function. The RCIC system started automatically on low reactor water level, began to inject into the reactor pressure vessel, and then tripped on low suction pressure. The RCIC pump flow controller was found to have been incorrectly tuned in January 2006. As part of their immediate corrective actions, licensee personnel tuned the RCIC controller prior to the December 6, 2007, plant startup.

The finding was considered more than minor because it was associated with Equipment Reliability attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. The finding was determined, through Phase 3 analysis, to be of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution as defined in IMC 0305 P.2(b) because the licensee failed to institutionalize operating experience through changes to procedures regarding flow controller settings.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: N/A May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TEST CONTROL PROGRAM TO ENSURE REACTOR CORE ISOLATION COOLING SYSTEM OPERABILITY

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," associated with testing of the reactor core isolation cooling (RCIC) system between January 20, 2006, and November 28, 2007, a period when RCIC was determined to have been inoperable. Specifically, the program failed to incorporate the requirements and acceptance limits contained in applicable design documents to assure that RCIC flow controller configuration and performance met design requirements during testing.

Inspection Report# : [2008002 \(pdf\)](#)

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TESTING OF THE REACTOR CORE ISOLATION COOLING INSTRUMENT LINES WITH APPROPRIATE PROCEDURES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," while observing a periodic test associated with the reactor core isolation cooling (RCIC) system on February 14, 2008. The inspectors determined that the licensee's procedure was inappropriate for the circumstances of the test. Specifically, the purpose of the test was to detect and quantify gas formation in RCIC system piping and the procedure did not provide an adequate method to determine whether acceptance criteria were met. The repeated performance of the test resulted in the unnecessary inoperability of the RCIC system.

This finding was greater than minor because it adversely affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the performance of the test affected the capability of the RCIC system to respond to events. The finding was of very low safety significance because the time RCIC was inoperable was less than TS-allowed inoperability time. The primary cause of this finding was related to the cross-cutting area of Human Performance as defined by Inspection Manual Chapter 0305 H.2(c), because the licensee failed to provide complete and accurate procedures related to nuclear safety. As part of their immediate corrective action, the licensee revised the test procedure.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE (NON)-RECURRANCE OF REACTOR CORE ISOLATION COOLING INOPERABILITY DUE TO IMPROPER CONTROLLER SETTINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," when the reactor core isolation cooling (RCIC) system was declared inoperable on December 12, 2007, due to improper flow controller settings. The inspectors noted that the cause of RCIC inoperability on December 12, 2007, was the same cause of RCIC inoperability from January 21, 2006, to November 28, 2007. The licensee failed to perform adequate corrective actions to preclude repetition of a significant condition adverse to quality. As part of their immediate corrective actions, the licensee entered the issue into the corrective action program and adjusted flow controller settings to 1987 pre-startup settings when RCIC successfully injected into the reactor pressure vessel.

The finding was more than minor because it was associated with the Equipment Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the controller settings affected the capability of the RCIC system to respond to initiating events as designed. The finding was determined to be of very low safety significance because it was determined that the period of inoperability was less than the TS-allowed outage time. The primary cause of this finding was related to the cross cutting area of Problem Identification and Resolution as defined in Inspection Manual Chapter 0305 P.2(a) because the licensee failed to communicate relevant external operating experience in a timely manner.

Inspection Report# : [2008002 \(pdf\)](#)

G

May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CLASSIFICATION OF CONDITION REPORT FOR REACTOR CORE ISOLATION COOLING

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," during a review of the licensee's treatment of the safety-related reactor core isolation cooling (RCIC) system's failure to perform its safety function when called upon during an event. On November 28, 2007, the licensee experienced an unplanned scram with complications that included a failure of the feedwater system affecting all feed pumps. During the event, RCIC failed to function as designed when aligned to the suppression pool and when re-aligned to the condensate storage tank. Licensee personnel failed to identify the RCIC failures as a significant condition adverse to quality within their corrective action program. As part of their immediate corrective actions, licensee personnel reclassified the condition as a significant condition adverse to quality.

The finding was considered more than minor because the failure to identify significant conditions adverse to quality would become a more significant safety concern if left uncorrected. The finding was determined to be of very low safety significance after management review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution as defined in Inspection Manual Chapter IMC 0305 P.1(a), because the licensee failed to identify the issue completely, accurately, and in a timely manner commensurate with its safety significance.

Inspection Report# : [2008002 \(pdf\)](#)

G

Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING REACTOR CORE ISOLATION COOLING

The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," during an inspection of the reactor core isolation cooling (RCIC) system on December 12, 2007. The inspectors observed scaffold construction in the RCIC pump room that was attached to a safety-related RCIC waterleg pump structural support and to the pump base, and was in contact with small diameter waterleg pump piping. The scaffold construction was determined to be contrary to seismic clearance procedural requirements. As part of their immediate corrective actions, licensee personnel removed the affected scaffolding from the RCIC system.

The finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the finding was determined to have placed RCIC in an unacceptable seismic configuration. The finding was determined to be of very low safety significance because it was determined not to represent a loss of safety function. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.3(a), because the licensee failed to appropriately plan the scaffold work activity by not incorporating the affect on plant structures, systems and components.

Inspection Report# : [2007005 \(pdf\)](#)

G

Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY A CONDITION ADVERSE TO QUALITY ASSOCIATED WITH SCAFFOLDING CONTACTING THE REACTOR CORE ISOLATION COOLING SYSTEM

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," during an inspection of the reactor core isolation cooling (RCIC) system. On December 12, 2007, the inspectors observed conditions adverse to quality associated with scaffold, erected on October 31, contact affecting the RCIC system. In response to the inspectors' observations, licensee personnel investigated the RCIC room and documented that no issues with scaffold associated with the RCIC system were identified. On December 14, 2007, the inspectors accompanied licensee personnel to the RCIC pump room to point out the conditions. The licensee determined that the conditions were unacceptable and, as part of their immediate corrective actions, licensee personnel removed the scaffold from the RCIC area.

The primary cause of this non-cited violation was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305, P.2(b) because the licensee failed to implement and institutionalize internal operating experience through changes in station processes and procedures.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CONTROL POST- MAINTENANCE TESTING

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," during an inspection of reactor core isolation cooling (RCIC) system testing between December 8 and December 9, 2007. The testing did not adequately incorporate requirements contained in design documents. The inspectors noted: (1) licensee personnel performed a test and later determined that the test was inappropriate; (2) personnel failed to control a test and exceeded a system design limit; and (3) personnel failed to control system configuration during testing. As part of their immediate corrective actions, operators restored the RCIC system to a normal configuration and performed an evaluation to determine whether system damage had occurred.

The finding was considered more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the failure to properly control the testing caused the system piping design pressure limit to be exceeded. The finding was determined to be of very low safety significance because it did not represent a loss of safety function. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.3(a), because the licensee failed to appropriately plan work activities by incorporating planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TAKE PROMPT CORRECTIVE ACTION TO ADDRESS EXTENT OF CONDITION FOR NONCONFORMING CONDITIONS AFFECTING THE DIVISION 1 EDG

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," when a nonconforming condition associated with the Division 1 Emergency Diesel Generator was discovered on November 16, 2007. One cylinder head stud was torqued below the minimum required torque setting. The inspectors determined that the licensee failed to perform an appropriate extent-of-condition review when several cylinder head studs were found below minimum torque level on November 13, 2006. Also, the licensee did not perform an extent-of-condition review during a subsequent refueling outage when both emergency diesel generators were available for maintenance. As part of its immediate corrective actions, the licensee entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Equipment Performance attribute of the Reactor Safety Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding addressed a lack of timely corrective action that adversely impacted the amount of time that the emergency diesel generator was subject to a degraded condition. The finding was determined to be of very low safety significance because it was determined not to represent a loss of operability. The primary cause of this finding was related to the cross cutting area of Problem Identification and Resolution per IMC 0305 P.1(d) because the licensee failed to take appropriate corrective action to address safety issues in a timely manner.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECT LACK OF AN ALTERNATE DECAY HEAT REMOVAL SYSTEM IN A TIMELY MANNER - RESULTS IN OPERATION PROHIBITED BY TECHNICAL SPECIFICATIONS

A finding of very low safety significance and an associated non cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective

Actions," was self-revealed on July 11, 2007, when the licensee failed to assure that deficiencies associated with alternate decay heat removal capability were corrected in a timely manner. Technical Specification (TS) 3.4.10 required the licensee to verify the availability of an alternate method of decay heat removal when a residual heat removal shutdown cooling subsystem was inoperable. On May 23, 2004, the licensee was unable to meet this requirement due to the lack of an approved alternate decay heat removal system. On July 11, 2007, operators were again unable to meet TS requirements because the lack of an alternate decay heat removal system deficiency had not been corrected. As part of their immediate corrective actions, the licensee entered the issue into their corrective action program and planned to complete a design change to install an alternate decay heat removal system.

This finding was more than minor because it was related to the Equipment Performance attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability of a mitigating system that responds to initiating events to prevent undesirable consequences. Specifically, the finding affected the availability of a decay heat removal system. Although not suited for Significance Determination Process review, the finding was determined to be of very low safety significance because the licensee restored shutdown cooling within two hours and the plant remained in Mode 4. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.2(a), because the licensee failed to minimize long standing equipment issues and maintenance deferral.

Inspection Report# : [2007005 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES RESULTS IN TEMPORARY LOSS OF DECAY HEAT REMOVAL

A finding of very low safety significance and a non cited violation of Technical Specification 5.4, "Procedures," was self-revealed when a loss of cooling water flow to the reactor occurred while the reactor was shutdown on July 11, 2007. A maintenance technician failed to adhere to procedures while performing a surveillance test and performed an action that caused the 'B' residual heat removal pump to trip. The 'B' residual heat removal pump was providing cooling water flow to the reactor when the pump trip occurred. As part of their immediate corrective actions, licensee personnel restored shutdown cooling water flow to the reactor by placing the 'A' residual heat removal loop in service and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Equipment Performance attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a disruption of reactor decay heat removal while the reactor was shutdown. The finding was determined to be of very low safety significance after a Phase 3 Significance Determination Process review. The primary cause of this finding was related to the cross cutting area of Human Performance per IMC 0305 H.3(b) because the organization failed to keep personnel apprised of plant conditions that affect the work.

Inspection Report# : [2007005 \(pdf\)](#)

Barrier Integrity

G

Significance: May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

LOSS OF SAFETY FUNCTION OF THE ANNULUS EXHAUST GAS TREATMENT SYSTEM

A finding of very low safety significance and a non cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed when a loss of the annulus exhaust gas treatment system (AEGTS) safety function occurred on December 21, 2007. Maintenance procedures failed to include adequate instructions and acceptance criteria related for a hydramotor assembly and this resulted in the inoperability of the 'B' AEGTS train while the 'A' train was inoperable for charcoal sampling. As part of their immediate corrective actions, licensee personnel restored 'A' train to operable status and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Procedure Quality attribute related to maintenance of containment function of the Barrier Integrity cornerstone and affected the cornerstone objective of reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the finding was determined to have resulted in a degraded condition of secondary containment. The finding was of very low safety significance because the finding only represented a degradation of the radiological barrier function. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.2(c), because the licensee failed to provide complete and accurate procedures related to nuclear safety.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE OF DESIGN CONTROL LEADING TO DROP OF FUEL CHANNEL ONTO SPENT FUEL

A finding of very low safety significance was self-revealed on October 18, 2007, when a fuel channel dislodged from a grapple during movement in the spent fuel pool. The licensee implemented a design change to the spent fuel handling bridge grapple system that resulted in an inadequate method of verification for grapple attachment to the fuel channel. The fuel channel was inadequately attached to the grapple and dropped onto several spent fuel assemblies. As part of their immediate corrective actions, licensee personnel reinstated the previous grapple design that allowed for positive visual verification of grapple attachment and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the design control attribute of the reactor safety Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding resulted in an event that challenged spent fuel cladding barrier. Although not suitable for Significance Determination Process review, the finding was determined to be of very low safety significance because the dropped fuel channel did not cause damage to the spent fuel. The primary cause of this finding was related to the cross-cutting area of Human Performance per IMC 0305 H.2(d) because the organization failed to ensure that equipment, including physical improvements, was adequate to assure nuclear safety.

Inspection Report# : [2007005 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: **G** Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO DEVELOP AN ACCURATE DOSE ESTIMATE FOR SCAFFOLDING WORK AND TO MAINTAIN WORKERS' DOSES ALARA

The inspectors identified a finding of very low safety significance and a non cited violation of Technical Specification 5.4.1.a was for the failure to adequately implement radiological dose controls as a result of ineffective radiological/As Low As Is Reasonably-Achievable (ALARA) planning and control during Refueling Outage Number 11. The total sum of the occupational radiation doses (collective dose) received by individuals for certain work activities was found in excess of that collective dose planned or intended (i.e., that dose the licensee determined was ALARA for those work activities). Corrective actions included the assignment of high impact teams to address and evaluate lessons learned from the refuel outage.

The finding was more than minor because the finding was associated with the Occupational Radiation Safety Cornerstone attribute of ALARA planning/dose projection, and affected the cornerstone objective of programs and processes for ensuring adequate protection of worker health and safety from exposure to radiation. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. It did involve ALARA planning and controls; however, the 3-year rolling average for Perry station is less than the Significance Determination Process (SDP) threshold of 240-person-rem for boiling water reactors. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety significance. The finding was determined to be associated with a cross cutting aspect in the area of Human Performance per IMC 0305 H.3(a) in work controls.

Inspection Report# : [2007005 \(pdf\)](#)

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : November 26, 2008

Perry 1

4Q/2008 Plant Inspection Findings

Initiating Events

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INSPECTION PROCEDURE FOR RPV HEAD STRONGBACK OMITTED NON-DESTRUCTIVE TESTING OF STRUCTURAL WELDS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Specifically, the licensee failed to perform nondestructive testing of reactor pressure vessel (RPV) head strongback major load carrying welds and critical areas required by American National Standards Institute (ANSI) N14.6-1978. The issue was entered into the licensee's corrective action program, and the licensee revised a procedure to perform nondestructive testing of RPV head strongback major load carrying welds and critical areas.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown. Specifically, the purpose of the nondestructive testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of a RPV head strongback structural component failure, and hence, to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review. The finding has a cross-cutting aspect in the area of human performance as defined in Inspection Manual Chapter 0305 H.2(c), because the licensee did not provide a complete, accurate, and up-to-date procedure to plant personnel.

Inspection Report# : [2008005 \(pdf\)](#)

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

CONTAINMENT POLAR CRANE TROLLEY SEISMIC RESTRAINTS DID NOT MEET SEISMIC CATEGORY I REQUIREMENTS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, the design basis structural analysis for the containment polar crane trolley did not adequately evaluate the trolley seismic restraints. Specifically, the trolley seismic restraint calculation failed to ensure that design stresses remained below acceptance limits. Also, the as-built configuration of the trolley seismic restraints was not in accordance with the analyzed condition. As a result, the design basis calculation was not sufficient to ensure conformance with Seismic Category I requirements for safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The issues were entered into the licensee's corrective action program. The licensee initiated the revision of the trolley seismic restraint calculation and the restoration of the trolley seismic restraint as-built condition to meet Seismic Category I requirements.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, compliance with Seismic Category I design requirements was to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review.

Inspection Report# : [2008005 \(pdf\)](#)

G**Significance:** Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Adequately Manage Risk Associated With Working Around a Risk-Significant Underground Vault

A finding of very low safety significance was self-revealed on July 30, 2008. While performing inspection and dewatering of an underground vault area, plant workers inadvertently dropped a man-hole cover into the vault. The 15-foot vault area contained 125 Volts direct current control power conduits that supplied fault protection circuitry for switchyard breakers. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was related to maintenance risk assessment and risk management issues. Specifically, the licensee failed to manage risk for maintenance activities associated with the electrical switchyard that could increase the likelihood of initiating events by causing a loss of offsite power. The finding was determined through a SDP analysis to be of very low safety significance as no mitigation equipment or functions were affected. This finding had a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.4(a), because the organization failed to ensure the use of human error prevention techniques commensurate with the risk of the assigned task. No violation of NRC requirements occurred.

Inspection Report# : [2008004 \(pdf\)](#)**G****Significance:** Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Loss of Configuration Control of the Hydrogen Water Chemistry Injection System Resulting in High Radiation Levels.

A finding of very low safety significance was self-revealed on June 28, 2008, when high radiation alarms for all four main steam lines were received in the control room during a plant power maneuver. Specifically, maintenance technicians failed to adhere to procedures and manipulated a hydrogen water chemistry control system while performing a surveillance test associated with the plant off-gas system. The off-gas system surveillance test procedure did not address operation of the hydrogen water chemistry control system and the technicians were not trained to operate the system. As part of their immediate corrective actions, the licensee corrected the system lineup to reduce radiation levels and entered the issue into their corrective action program.

This finding was considered more than minor because the manipulation of plant systems that are different from those specified in the authorized work procedure would become a more significant safety concern if left uncorrected. In this case, the finding led to an unexpected increase in radiation levels in areas accessible to plant personnel and was associated with the operating equipment lineup of the configuration control attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a SDP analysis to be of very low safety significance as no mitigation equipment or functions were affected and no actual increase in personnel exposure occurred. This finding has a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.4(b), because the organization failed to ensure that personnel do not proceed with a task in the face of uncertainty. No violation of NRC requirements occurred.

Inspection Report# : [2008004 \(pdf\)](#)**G****Significance:** Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO IDENTIFY A DEGRADED FLOW CONTROL VALVE CONNECTOR

The inspectors identified a finding of very low safety significance for the failure of licensee personnel to adhere to corrective action program procedures. Specifically, during inspection of the linear velocity transducer connector for the 'A' flow control valve actuator, the connector was found in a degraded state, and personnel applied tape to the connector. Licensee personnel did not initiate a condition report to address this condition or to assess operability, and the connector later failed causing reactor flow and power oscillations. The licensee entered the issue of failure to

adhere to corrective action program procedures into their corrective action program. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to properly identify issues related to nuclear safety P.1(a).

This finding was considered more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because no mitigation equipment or functions were affected. No violation of NRC requirements occurred.

Inspection Report# : [2008003](#) (pdf)

G

Significance: Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT ADEQUATE CONFIGURATION CONTROL AFFECTING 'A' REACTOR WATER CLEANUP SYSTEM

A finding of very low safety significance and a non-cited violation of Technical Specification (TS) 5.4, "Procedures," was self-revealed on January 4, 2008, when reactor steam was observed coming from the from the 'A' reactor water cleanup (RWCU) system as operators opened the pump suction shutoff valve. A system isolation valve that was danger-tagged as shut to provide double-boundary protection from the reactor coolant system was found in the open position. At the time of the event, licensee personnel were in the process of restoring the 'A' RWCU pump to service following maintenance and the reactor was at rated power and pressure. As part of their immediate corrective actions, licensee personnel isolated the leak, performed a system alignment, and entered this issue into their corrective action program.

The finding was considered more than minor because it was associated with the Human Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power functions. Specifically, the finding resulted in a reactor coolant leak to the safety-related auxiliary building. The finding was determined to be of very low safety significance because the reactor water leak was readily isolable. The primary cause of this finding was related to the cross-cutting area of Human Performance as defined by IMC 0305 H.1(b) because licensee personnel failed to use conservative assumptions in decision making associated with the valve tagging procedure.

Inspection Report# : [2008002](#) (pdf)

G

Significance: SL-IV Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAKE 10 CFR 50.72 REPORT

The inspectors identified a non-cited violation of 10 CFR Part 50.72(b)(2)(iv)(B), "Four Hour Reports." The inspectors determined that the licensee failed to report a manual actuation of the reactor protection system when it was not part of a preplanned sequence. Specifically, on June 22, 2007, the 'B' reactor recirculation pump failed during a plant shutdown sequence and the licensee inserted a manual scram above preplanned power levels and not in accordance with the preplanned sequence. Licensee operators decided to insert the manual scram earlier than planned due to the unexpected loss of flow in the 'B' reactor recirculation system loop.

Inspection Report# : [2008002](#) (pdf)

G

Significance: Mar 31, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO REPORT TIMELY PERFORMANCE INDICATOR INFORMATION

The inspectors identified a finding associated with the licensee's reporting of Unplanned Scram Performance Indicator

(PI) data for the second quarter 2007. On July 23, 2007, Perry plant personnel submitted PI data to the NRC that included one unplanned scram for the second quarter of 2007. In August 2007, the inspectors informed the licensee that the NRC disagreed with the reported number of unplanned scrams. The inspectors determined that the licensee failed to pursue resolution of the discrepancy in a timely manner in accordance with established industry standards.

The finding was considered more than minor because it was related to a PI and would have caused the PI to exceed a threshold. Had all three unplanned scrams been reported in July 2007, the Unplanned Scram PI would have crossed the Green to White threshold. The finding was determined to be of very low safety significance after management review.

Inspection Report# : [2008002](#) (pdf)

Mitigating Systems

Significance: SL-IV Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO REPORT ALL 10 CFR 50.73 REPORTABLE EVENTS ASSOCIATED WITH THE DISCOVERY OF LOOSE CONTAINMENT GRATING

The inspectors identified a non-cited violation of 10 CFR 50.73(a)(1), "Licensee Event Reports." The inspectors determined that the licensee failed to submit a required Licensee Event Report (LER) within 60 days after discovery of conditions requiring a report. On August 26, 2007, the licensee identified improperly installed containment floor grating that affected safety system operability. The licensee failed to report conditions of operations prohibited by Technical Specification, operations in an unanalyzed condition, and loss of safety function from August 6 to August 9, 2007, that were associated with inoperability of low pressure core injection 'A.' The licensee entered this issue into their corrective action program.

The primary cause of this non-cited violation was related to the cross-cutting area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c) because the licensee failed to thoroughly evaluate problems for reportability conditions.

Inspection Report# : [2008005](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Impaired Fire Barrier for Safety-Related Building

The inspectors identified a finding of very low safety significance and an associated NCV of the Perry Nuclear Power Plant Operating License Condition C(6). During a maintenance activity, licensee personnel degraded a fire barrier in a manner that was contrary to the procedural requirements of the Perry Plant Fire Protection Program. As part of their immediate corrective action, the licensee restored the fire barrier and entered the issue into their corrective action program.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Disposition Screening," because the finding was associated with protection against external factors attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, by the inappropriate use of fixed impairments on the fire doors between the diesel fire pump room and the emergency service water pumphouse, the licensee removed a fire barrier which could impact safety-related equipment. The finding was determined to be of very low safety significance during a Phase 2 SDP review. This finding has a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.4(a), because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Compensatory Measures for a Risk-Management Activity

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(4) for failure to assess and manage the risk associated with maintenance activity affecting the low pressure core spray system. Specifically, the licensee removed floor plugs in the auxiliary building and failed to implement risk control measures to assure operability of low pressure core spray. As part of their immediate corrective actions, the licensee personnel re-installed building floor plugs and returned low pressure core spray to an operable status.

The finding was considered more than minor because the licensee failed to prescribe significant compensatory measures for external conditions; and if the practice were left uncorrected, the issue would become a more significant safety concern. The finding was of very low safety significance because the incremental core damage frequency associated with the activity was less than 1×10^{-6} . This finding has a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.3(a), because the organization failed to adequately plan work activities that are associated with risk.

Inspection Report# : [2008004 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedurally-Required Risk management Activity for a Protected Train

The inspectors identified a finding of very low safety significance and a NCV of 10 CFR 50.65(a)(4) for failure to implement a procedurally-required risk management activity for a safety system protected train. The licensee failed to provide required management oversight of work on emergency closed cooling 'A' while the plant was in Yellow Risk. The licensee entered the issue into their corrective action program.

The finding was considered more than minor because the licensee failed to effectively manage significant compensatory measures for an elevated risk condition; and if the practice were left uncorrected, the issue would become a more significant safety concern. The finding was of very low safety significance, because the incremental core damage frequency associated with the activity was less than 1×10^{-6} . This finding has a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.3(a), because the organization failed to adequately plan work activities that are associated with risk.

Inspection Report# : [2008004 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Use procedures for Work Affecting Safety

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed on August 4, 2008, when contract workers bored a hole into a safety-related structure in an inappropriate location. The workers did not use documented instructions, procedures, or drawings when performing the work. As part of their immediate corrective actions, the licensee conducted worker training and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the design control attribute of Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the licensee initiated work on a seismically qualified structure in the absence of an approved work package and degraded the structure. The finding was determined to be of very low safety significance because it did not result in safety system inoperability. This finding had a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.4.(a), because the licensee failed to communicate human error prevention techniques through a pre-job brief and personnel proceeded in the face of unexpected circumstances.

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILED TO PERFORM AN ADEQUATE DESIGN REVIEW FOR EXPECTED CONDITIONS OF THE OFFSITE POWER SUPPLY IN DETERMINING DESIGN INPUTS FOR EVALUATING THE EFFECTS OF OFFSITE VOLTAGE

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to ensure that the design limits in electrical calculations bound expected operational values. Specifically, the licensee failed to perform an adequate design review for expected conditions of the offsite power supply in determining design inputs for evaluating the effects of offsite voltage on plant equipment and to ensure that proper design control was maintained. During the inspection, the licensee evaluated the conditions and determined that the higher than analyzed offsite power system voltage did not have an impact on the operability of plant equipment. The cause of the finding is related to the cross-cutting area of Problem Identification and Resolution, specifically with respect to Corrective Action Program, because the licensee failed to evaluate and determine the extent of condition of the voltage in the offsite power supply. P.1(c) (Section 1R21.3.b(1))

Inspection Report# : [2008006](#) (pdf)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE THAT EQUIPMENT INSTALLED IN THE PLANT WAS IN ACCORDANCE WITH THE DESIGN DOCUMENTATION

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to ensure that equipment installed in the plant was in accordance with the design documentation. The inspectors identified several examples of equipment installed in the plant with electrical characteristics that varied from the design documentation. These conditions were subsequently evaluated and determined not to affect the operability of the equipment. This finding has a cross-cutting aspect in the area of Human Performance, Resources because the licensee did not ensure that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety. H.2(c) (Section 1R21.3.b(2))

Inspection Report# : [2008006](#) (pdf)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT ERRORS AND DISCREPANCIES IN SEISMIC QUALIFICATION DOCUMENTS FOR THE STANDBY LIQUID CONTROL (SLC) STORAGE TANK

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to identify and correct errors and discrepancies in seismic qualification documents for the Standby Liquid Control (SLC) storage tank. Subsequent licensee evaluation indicated that stresses in the critical SLC tank components will remain within the acceptance limits. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.3.b(3))

Inspection Report# : [2008006](#) (pdf)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TEST REACTOR PROTECTION SYSTEM KEY LOCKED BYPASS SWITCHES

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test

Control," was identified by the inspectors for the failure to test reactor protection system key locked bypass switches. The licensee entered this issue into its corrective action program and initiated procedural changes to require periodic testing of the RPS bypass switches. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.5.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ADEQUACY OF MAINTENANCE ASSOCIATED WITH EMERGENCY SERVICE WATER STRAINER FAILURE

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed when the 'B' emergency service water (ESW) system pump discharge strainer failed on December 27, 2007. A strainer inspection cover, about 6 inches wide and 9 inches tall, became dislodged due to a loose fastener, and water discharged into the ESW pump house when the 'B' ESW pump was started. The strainer was last worked during a refueling outage in April 2007. The maintenance procedures associated with the strainer were determined to be inappropriate because they resulted in the unexpected failure of the strainer cover. As part of their immediate corrective actions, licensee personnel revised strainer cover installation procedures, repaired the strainer, and restored availability of the 'B' ESW system.

The finding was considered more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the finding resulted in the unavailability of the 'B' ESW system train. The finding was determined to be of very low safety significance because it did not represent an actual loss of safety function of a single train for greater than the TS-allowed outage time.

Inspection Report# : [2008002 \(pdf\)](#)

G

Significance: Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY CORRECT AND EVALUATE A CONDITION AFFECTING THE ESW PUMP AND ITS ASSOCIATED DISCHARGE VALVES

The inspectors identified a finding having very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to adequately evaluate and take appropriate corrective actions for a condition adverse to quality affecting the Emergency Service Water (ESW) Pump 'A' and its associated discharge valve. Specifically, the licensee did not implement adequate actions to ensure that the ESW Pump 'A' discharge valve (1P45F0130A) would remain open and would not be damaged during the loss of direct current (DC) Bus ED-1-A while the pump was in operation. In addition, the licensee did not identify and evaluate the impact of this condition on the plant=s safe shutdown equipment in the event of an Appendix R fire in the control room. The licensee entered the issue into their corrective action program.

This finding was more than minor because the failure to assure that the ESW Pump 'A' discharge valve would remain open and would not be damaged affected the mitigating system corner stone objective of ensuring the availability, reliability and capability of the safety-related components to respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because the specific condition/scenario only affected the ESW Pump 'A' and its associated discharge valve and it did not exist for the redundant ESW Pump 'B'. In addition, safe shutdown components for the Division 2 and/or Division 3 systems would remain available, free of fire damage, to safely shut down the plant in the event of a fire in the control room. The finding has a cross-cutting aspect in the area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c), because the licensee failed to thoroughly evaluate the problem when it was first identified in 2006.

G

Significance: Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

ADEQUACY OF REACTOR CORE ISOLATION COOLING SYSTEM FLOW CONTROLLER TUNING PROCEDURES

A finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed during the reactor scram and plant response on November 28, 2007, when reactor core isolation cooling (RCIC) failed to perform its design function. The RCIC system started automatically on low reactor water level, began to inject into the reactor pressure vessel, and then tripped on low suction pressure. The RCIC pump flow controller was found to have been incorrectly tuned in January 2006. As part of their immediate corrective actions, licensee personnel tuned the RCIC controller prior to the December 6, 2007, plant startup.

The finding was considered more than minor because it was associated with Equipment Reliability attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. The finding was determined, through Phase 3 analysis, to be of very low safety significance. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution as defined in IMC 0305 P.2(b) because the licensee failed to institutionalize operating experience through changes to procedures regarding flow controller settings.

Significance: N/A Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TEST CONTROL PROGRAM TO ENSURE REACTOR CORE ISOLATION COOLING SYSTEM OPERABILITY

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," associated with testing of the reactor core isolation cooling (RCIC) system between January 20, 2006, and November 28, 2007, a period when RCIC was determined to have been inoperable. Specifically, the program failed to incorporate the requirements and acceptance limits contained in applicable design documents to assure that RCIC flow controller configuration and performance met design requirements during testing.

G

Significance: Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TESTING OF THE REACTOR CORE ISOLATION COOLING INSTRUMENT LINES WITH APPROPRIATE PROCEDURES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," while observing a periodic test associated with the reactor core isolation cooling (RCIC) system on February 14, 2008. The inspectors determined that the licensee's procedure was inappropriate for the circumstances of the test. Specifically, the purpose of the test was to detect and quantify gas formation in RCIC system piping and the procedure did not provide an adequate method to determine whether acceptance criteria were met. The repeated performance of the test resulted in the unnecessary inoperability of the RCIC system.

This finding was greater than minor because it adversely affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Specifically, the performance of the test affected the capability of the RCIC system to respond to events. The finding was of very low safety significance because the time RCIC was inoperable was less

than TS-allowed inoperability time. The primary cause of this finding was related to the cross-cutting area of Human Performance as defined by Inspection Manual Chapter 0305 H.2(c), because the licensee failed to provide complete and accurate procedures related to nuclear safety. As part of their immediate corrective action, the licensee revised the test procedure.

Inspection Report# : [2008002](#) (*pdf*)

G

Significance: Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE (NON)-RECURRANCE OF REACTOR CORE ISOLATION COOLING INOPERABILITY DUE TO IMPROPER CONTROLLER SETTINGS

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," when the reactor core isolation cooling (RCIC) system was declared inoperable on December 12, 2007, due to improper flow controller settings. The inspectors noted that the cause of RCIC inoperability on December 12, 2007, was the same cause of RCIC inoperability from January 21, 2006, to November 28, 2007. The licensee failed to perform adequate corrective actions to preclude repetition of a significant condition adverse to quality. As part of their immediate corrective actions, the licensee entered the issue into the corrective action program and adjusted flow controller settings to 1987 pre-startup settings when RCIC successfully injected into the reactor pressure vessel.

The finding was more than minor because it was associated with the Equipment Performance attribute of the reactor safety Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the controller settings affected the capability of the RCIC system to respond to initiating events as designed. The finding was determined to be of very low safety significance because it was determined that the period of inoperability was less than the TS-allowed outage time. The primary cause of this finding was related to the cross cutting area of Problem Identification and Resolution as defined in Inspection Manual Chapter 0305 P.2(a) because the licensee failed to communicate relevant external operating experience in a timely manner.

Inspection Report# : [2008002](#) (*pdf*)

G

Significance: Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CLASSIFICATION OF CONDITION REPORT FOR REACTOR CORE ISOLATION COOLING

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," during a review of the licensee's treatment of the safety-related reactor core isolation cooling (RCIC) system's failure to perform its safety function when called upon during an event. On November 28, 2007, the licensee experienced an unplanned scram with complications that included a failure of the feedwater system affecting all feed pumps. During the event, RCIC failed to function as designed when aligned to the suppression pool and when re-aligned to the condensate storage tank. Licensee personnel failed to identify the RCIC failures as a significant condition adverse to quality within their corrective action program. As part of their immediate corrective actions, licensee personnel reclassified the condition as a significant condition adverse to quality.

The finding was considered more than minor because the failure to identify significant conditions adverse to quality would become a more significant safety concern if left uncorrected. The finding was determined to be of very low safety significance after management review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution as defined in Inspection Manual Chapter IMC 0305 P.1(a), because the licensee failed to identify the issue completely, accurately, and in a timely manner commensurate with its safety significance.

Inspection Report# : [2008002](#) (*pdf*)

Barrier Integrity

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Adequacy of Airlock Ball Valve Maintenance

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR Part 50 Appendix B, Criterion 5 , "Procedures," was identified on June 1, 2008, when a containment airlock door seal failed during routine operations. On March 26, 2008, the licensee failed to implement airlock maintenance procedures appropriate to the circumstances and this led to a failure of the containment upper airlock outer door seal. As part of their corrective actions, the licensee conducted training and revised procedures.

The finding was determined to be more than minor because it was associated with the Procedure Quality attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance because the upper airlock inner door remained closed and the finding did not represent an actual open pathway in the physical integrity of reactor containment.

Inspection Report# : [2008004 \(pdf\)](#)

G

Significance: Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

LOSS OF SAFETY FUNCTION OF THE ANNULUS EXHAUST GAS TREATMENT SYSTEM

A finding of very low safety significance and a non cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was self-revealed when a loss of the annulus exhaust gas treatment system (AEGTS) safety function occurred on December 21, 2007. Maintenance procedures failed to include adequate instructions and acceptance criteria related for a hydramotor assembly and this resulted in the inoperability of the 'B' AEGTS train while the 'A' train was inoperable for charcoal sampling. As part of their immediate corrective actions, licensee personnel restored 'A' train to operable status and entered the issue into the corrective action program.

The finding was more than minor because it was associated with the Procedure Quality attribute related to maintenance of containment function of the Barrier Integrity cornerstone and affected the cornerstone objective of reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the finding was determined to have resulted in a degraded condition of secondary containment. The finding was of very low safety significance because the finding only represented a degradation of the radiological barrier function. The primary cause of this finding was related to the cross-cutting area of Human Performance per Inspection Manual Chapter 0305 H.2(c), because the licensee failed to provide complete and accurate procedures related to nuclear safety.

Inspection Report# : [2008002 \(pdf\)](#)

Emergency Preparedness

G

Significance: Dec 31, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

LOSS OF THE V-1F AND V-2F NON-VITAL BUSES RESULTING THE THE LOSS OF TECHNICAL SUPPORT CENTER COMPUTERS

A finding of very low safety significance was self-revealed on October 30, 2008, when licensee personnel failed to appropriately respond to a Technical Support Center (TSC) computer room high temperature alarm. As a result, electrical power supply to plant emergency response equipment and control systems was interrupted. Affected

systems included the Integrated Computer System (ICS), Emergency Response Data System (ERDS), one train of power to the Digital Feedwater Control System (DFWCS), and the chemistry computer. As part of their immediate corrective actions, licensee personnel restored the affected systems entered the issue into their corrective action program.

This finding is considered more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and affected the objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was determined to be of very low safety significance because the equipment was restored to a functional status in less than seven days. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to ensure that issues were identified accurately and in a timely manner commensurate with their significance as defined in Inspection Manual Chapter 0305 P.1(a).

Inspection Report# : [2008005](#) ([pdf](#))

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : April 07, 2009

Perry 1

1Q/2009 Plant Inspection Findings

Initiating Events

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INEFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH THE MOTOR FEEDWATER PUMP IN 10 CFR 50.65(a)(1) STATUS

A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(1) was identified by the inspectors for the licensee's failure to take reasonable corrective action to avoid recurrence of unavailability of a component in accordance with the maintenance rule. The inspectors determined that the licensee failed to implement the corrective action identified by the expert review panel, after the motor feedwater pump (MFP) did not meet licensee established goals. Specifically, the licensee failed to continuously run a purifier on the MFP lube oil sump to ensure the MFP was capable of fulfilling its intended function. On August 2, 2008, the portable lube oil purifier failed and the licensee did not connect a readily available purifier until after water intrusion into the oil rendered the MFP unavailable on August 7, 2008, and the plant entered YELLOW probabilistic safety assessment (PSA) risk. The licensee entered this issue into their corrective action program, attached the available lube oil purifier to restore the MFP, and purchased an additional lube oil purifier to ensure the plant would continue to implement the program's corrective action to avoid further MFP unavailability.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during plant operations. Specifically, the failure to implement a corrective action challenged the availability of a risk-significant component with a known degraded equipment problem and placed the plant in unplanned YELLOW PSA risk. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c) because the organization failed to properly prioritize the purification system repair. The inspectors determined that the finding was of very low safety significance following an SDP review.

Inspection Report# : [2009002 \(pdf\)](#)

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSPECTIONS ON THE RPV HEAD STRONGBACK LIFTING DEVICE MAJOR LOAD-CARRYING WELDS AND CRITICAL AREAS

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." The inspectors determined that the licensee failed to perform required nondestructive testing on the reactor pressure vessel (RPV) head strongback. Specifically, on February 25, 2009, the licensee failed to conduct a complete nondestructive examination (NDE) of a structural weld associated with the strongback lifting device. As part of their corrective actions, the licensee entered the issue into its corrective action program and performed a functionality assessment of the RPV head strongback, prior to lifting the RPV head, to assure that the strongback could perform its design function.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the purpose of the NDE testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of an RPV head strongback structural component failure, and hence, to assure safe load handling of heavy

loads over the reactor core or over safety-related systems. The inspectors determined that the finding was of very low safety significance following a qualitative SDP review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c), because the licensee failed to thoroughly evaluate corrective actions to ensure they appropriately addressed the identified issue.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

LOSS OF SERVICE AIRE TO MAIN STEAM LINE PLUGS

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on March 7, 2009, when main steam line plug seal pressure began to drop unexpectedly while the reactor cavity was flooded for refueling operations. Operators failed to conduct an adequate shift turnover regarding the configuration of service air isolation valves to containment affecting the main steam line plugs and subsequently isolated the air supply to the plug seals. As part of their immediate corrective actions, licensee personnel restored air to the main steam line plug seals and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of configuration control and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, loss of air pressure to main steam line seals increased the likelihood of a loss of reactor water inventory event during refueling operations. The finding was determined to be of very low safety significance following a Phase II SDP review. This finding has a cross-cutting aspect in the area of Human Performance, work control, per IMC 0305 H.3(b) because the licensee did not appropriately coordinate work activities associated with service air system testing.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MAINTENANCE ON HPCS SYSTEM RESULTED IN EMERGENCY OPERATING PROCEDURE ENTRY

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on February 3, 2009, when the control room received an unexpected high pressure core spray (HPCS) pump room sump level high alarm and entered Emergency Operating Procedure (EOP) – 3, "Secondary Containment Control." The licensee did not properly control a maintenance activity on the HPCS system resulting in unexpected water spray in the HPCS pump room. As part of their immediate corrective actions, licensee personnel recovered from the drain down of the system and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The event challenged shutdown operations as operators entered the EOP and responded to reports of significant water spray entering the pump room. The finding was determined, through an SDP analysis, to be of very low safety significance as no mitigation equipment or functions were affected. The primary cause of this finding was related to the cross-cutting aspect in the area of Human Performance per IMC 0305 H.3(a) because the organization failed to appropriately plan work activities that impact plant structures and systems, and failed to ensure appropriate contingencies were in place to perform a maintenance activity.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INSPECTION PROCEDURE FOR RPV HEAD STRONGBACK OMITTED NON-DESTRUCTIVE TESTING OF STRUCTURAL WELDS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Specifically, the licensee failed to perform nondestructive testing of reactor pressure vessel (RPV) head strongback major load carrying welds and critical areas required by American National Standards Institute (ANSI) N14.6-1978. The issue was entered into the licensee's corrective action program, and the licensee revised a procedure to perform nondestructive testing of RPV head strongback major load carrying welds and critical areas.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown. Specifically, the purpose of the nondestructive testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of a RPV head strongback structural component failure, and hence, to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review. The finding has a cross-cutting aspect in the area of human performance as defined in Inspection Manual Chapter 0305 H.2(c), because the licensee did not provide a complete, accurate, and up-to-date procedure to plant personnel.

Inspection Report# : [2008005](#) ([pdf](#))

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

CONTAINMENT POLAR CRANE TROLLEY SEISMIC RESTRAINTS DID NOT MEET SEISMIC CATEGORY I REQUIREMENTS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, the design basis structural analysis for the containment polar crane trolley did not adequately evaluate the trolley seismic restraints. Specifically, the trolley seismic restraint calculation failed to ensure that design stresses remained below acceptance limits. Also, the as-built configuration of the trolley seismic restraints was not in accordance with the analyzed condition. As a result, the design basis calculation was not sufficient to ensure conformance with Seismic Category I requirements for safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The issues were entered into the licensee's corrective action program. The licensee initiated the revision of the trolley seismic restraint calculation and the restoration of the trolley seismic restraint as-built condition to meet Seismic Category I requirements.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, compliance with Seismic Category I design requirements was to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review.

Inspection Report# : [2008005](#) ([pdf](#))

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Adequately Manage Risk Associated With Working Around a Risk-Significant Underground Vault

A finding of very low safety significance was self-revealed on July 30, 2008. While performing inspection and dewatering of an underground vault area, plant workers inadvertently dropped a man-hole cover into the vault. The 15-foot vault area contained 125 Volts direct current control power conduits that supplied fault protection circuitry for switchyard breakers. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was related to maintenance risk assessment and risk management issues. Specifically, the licensee failed to manage risk for maintenance activities associated with the

electrical switchyard that could increase the likelihood of initiating events by causing a loss of offsite power. The finding was determined through a SDP analysis to be of very low safety significance as no mitigation equipment or functions were affected. This finding had a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.4(a), because the organization failed to ensure the use of human error prevention techniques commensurate with the risk of the assigned task. No violation of NRC requirements occurred.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Loss of Configuration Control of the Hydrogen Water Chemistry Injection System Resulting in High Radiation Levels.

A finding of very low safety significance was self-revealed on June 28, 2008, when high radiation alarms for all four main steam lines were received in the control room during a plant power maneuver. Specifically, maintenance technicians failed to adhere to procedures and manipulated a hydrogen water chemistry control system while performing a surveillance test associated with the plant off-gas system. The off-gas system surveillance test procedure did not address operation of the hydrogen water chemistry control system and the technicians were not trained to operate the system. As part of their immediate corrective actions, the licensee corrected the system lineup to reduce radiation levels and entered the issue into their corrective action program.

This finding was considered more than minor because the manipulation of plant systems that are different from those specified in the authorized work procedure would become a more significant safety concern if left uncorrected. In this case, the finding led to an unexpected increase in radiation levels in areas accessible to plant personnel and was associated with the operating equipment lineup of the configuration control attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a SDP analysis to be of very low safety significance as no mitigation equipment or functions were affected and no actual increase in personnel exposure occurred. This finding has a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.4(b), because the organization failed to ensure that personnel do not proceed with a task in the face of uncertainty. No violation of NRC requirements occurred.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

FAILURE TO IDENTIFY A DEGRADED FLOW CONTROL VALVE CONNECTOR

The inspectors identified a finding of very low safety significance for the failure of licensee personnel to adhere to corrective action program procedures. Specifically, during inspection of the linear velocity transducer connector for the 'A' flow control valve actuator, the connector was found in a degraded state, and personnel applied tape to the connector. Licensee personnel did not initiate a condition report to address this condition or to assess operability, and the connector later failed causing reactor flow and power oscillations. The licensee entered the issue of failure to adhere to corrective action program procedures into their corrective action program. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to properly identify issues related to nuclear safety P.1(a).

This finding was considered more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a Significance Determination Process analysis to be of very low safety significance because no mitigation equipment or functions were affected. No violation of NRC requirements occurred.

Inspection Report# : [2008003](#) (pdf)

Mitigating Systems

Significance: SL-IV Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO REPORT ALL 10 CFR 50.73 REPORTABLE EVENTS ASSOCIATED WITH THE DISCOVERY OF LOOSE CONTAINMENT GRATING

The inspectors identified a non-cited violation of 10 CFR 50.73(a)(1), "Licensee Event Reports." The inspectors determined that the licensee failed to submit a required Licensee Event Report (LER) within 60 days after discovery of conditions requiring a report. On August 26, 2007, the licensee identified improperly installed containment floor grating that affected safety system operability. The licensee failed to report conditions of operations prohibited by Technical Specification, operations in an unanalyzed condition, and loss of safety function from August 6 to August 9, 2007, that were associated with inoperability of low pressure core injection 'A.' The licensee entered this issue into their corrective action program.

The primary cause of this non-cited violation was related to the cross-cutting area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c) because the licensee failed to thoroughly evaluate problems for reportability conditions.

Inspection Report# : [2008005 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Impaired Fire Barrier for Safety-Related Building

The inspectors identified a finding of very low safety significance and an associated NCV of the Perry Nuclear Power Plant Operating License Condition C(6). During a maintenance activity, licensee personnel degraded a fire barrier in a manner that was contrary to the procedural requirements of the Perry Plant Fire Protection Program. As part of their immediate corrective action, the licensee restored the fire barrier and entered the issue into their corrective action program.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Disposition Screening," because the finding was associated with protection against external factors attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, by the inappropriate use of fixed impairments on the fire doors between the diesel fire pump room and the emergency service water pumphouse, the licensee removed a fire barrier which could impact safety-related equipment. The finding was determined to be of very low safety significance during a Phase 2 SDP review. This finding has a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.4(a), because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2008004 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Compensatory Measures for a Risk-Management Activity

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(4) for failure to assess and manage the risk associated with maintenance activity affecting the low pressure core spray system. Specifically, the licensee removed floor plugs in the auxiliary building and failed to implement risk control measures to assure operability of low pressure core spray. As part of their immediate corrective actions, the licensee personnel re-installed building floor plugs and returned low pressure core spray to an operable status.

The finding was considered more than minor because the licensee failed to prescribe significant compensatory measures for external conditions; and if the practice were left uncorrected, the issue would become a more significant safety concern. The finding was of very low safety significance because the incremental core damage frequency associated with the activity was less than 1×10^{-6} . This finding has a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.3(a), because the organization failed to adequately plan work activities that are associated with risk.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedurally-Required Risk management Activity for a Protected Train

The inspectors identified a finding of very low safety significance and a NCV of 10 CFR 50.65(a)(4) for failure to implement a procedurally-required risk management activity for a safety system protected train. The licensee failed to provide required management oversight of work on emergency closed cooling 'A' while the plant was in Yellow Risk. The licensee entered the issue into their corrective action program.

The finding was considered more than minor because the licensee failed to effectively manage significant compensatory measures for an elevated risk condition; and if the practice were left uncorrected, the issue would become a more significant safety concern. The finding was of very low safety significance, because the incremental core damage frequency associated with the activity was less than 1×10^{-6} . This finding has a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.3(a), because the organization failed to adequately plan work activities that are associated with risk.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Use procedures for Work Affecting Safety

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed on August 4, 2008, when contract workers bored a hole into a safety-related structure in an inappropriate location. The workers did not use documented instructions, procedures, or drawings when performing the work. As part of their immediate corrective actions, the licensee conducted worker training and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the design control attribute of Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the licensee initiated work on a seismically qualified structure in the absence of an approved work package and degraded the structure. The finding was determined to be of very low safety significance because it did not result in safety system inoperability. This finding had a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.4.(a), because the licensee failed to communicate human error prevention techniques through a pre-job brief and personnel proceeded in the face of unexpected circumstances.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILED TO PERFORM AN ADEQUATE DESIGN REVIEW FOR EXPECTED CONDITIONS OF THE OFFSITE POWER SUPPLY IN DETERMINING DESIGN INPUTS FOR EVALUATING THE EFFECTS OF OFFSITE VOLTAGE

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III,

“Design Control,” was identified by the inspectors for the failure to ensure that the design limits in electrical calculations bound expected operational values. Specifically, the licensee failed to perform an adequate design review for expected conditions of the offsite power supply in determining design inputs for evaluating the effects of offsite voltage on plant equipment and to ensure that proper design control was maintained. During the inspection, the licensee evaluated the conditions and determined that the higher than analyzed offsite power system voltage did not have an impact on the operability of plant equipment. The cause of the finding is related to the cross-cutting area of Problem Identification and Resolution, specifically with respect to Corrective Action Program, because the licensee failed to evaluate and determine the extent of condition of the voltage in the offsite power supply. P.1(c) (Section 1R21.3.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE THAT EQUIPMENT INSTALLED IN THE PLANT WAS IN ACCORDANCE WITH THE DESIGN DOCUMENTATION

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the failure to ensure that equipment installed in the plant was in accordance with the design documentation. The inspectors identified several examples of equipment installed in the plant with electrical characteristics that varied from the design documentation. These conditions were subsequently evaluated and determined not to affect the operability of the equipment. This finding has a cross-cutting aspect in the area of Human Performance, Resources because the licensee did not ensure that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety. H.2(c) (Section 1R21.3.b(2))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY AND CORRECT ERRORS AND DISCREPANCIES IN SEISMIC QUALIFICATION DOCUMENTS FOR THE STANDBY LIQUID CONTROL (SLC) STORAGE TANK

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the failure to identify and correct errors and discrepancies in seismic qualification documents for the Standby Liquid Control (SLC) storage tank. Subsequent licensee evaluation indicated that stresses in the critical SLC tank components will remain within the acceptance limits. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.3.b(3))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jun 06, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TEST REACTOR PROTECTION SYSTEM KEY LOCKED BYPASS SWITCHES

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” was identified by the inspectors for the failure to test reactor protection system key locked bypass switches. The licensee entered this issue into its corrective action program and initiated procedural changes to require periodic testing of the RPS bypass switches. This finding does not have a cross-cutting aspect because it is not indicative of current performance. (Section 1R21.5.b(1))

Inspection Report# : [2008006 \(pdf\)](#)

G

Significance: Jan 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING CONTAINMENT SYSTEMS

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was identified by the team for the failure to erect scaffolding in accordance with procedural requirements. Specifically, scaffold constructed in the Intermediate Building had seismic bracing attached to a safety related cable tray support and was connected to a duct support without an approved engineering document as specified in procedural requirements.

Although the licensee was able to demonstrate that the cable tray support and duct support were operable, the finding was determined to be more than minor because there was reasonable doubt that the licensee routinely performed engineering evaluations on similar scaffold issues. The finding was determined to be of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment. This finding had a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the licensee failed to provide effective oversight of the erected seismic scaffold to ensure compliance with procedural requirements [H.4(c)].

Inspection Report# : [2009006 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Adequacy of Airlock Ball Valve Maintenance

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR Part 50 Appendix B, Criterion 5 , "Procedures," was identified on June 1, 2008, when a containment airlock door seal failed during routine operations. On March 26, 2008, the licensee failed to implement airlock maintenance procedures appropriate to the circumstances and this led to a failure of the containment upper airlock outer door seal. As part of their corrective actions, the licensee conducted training and revised procedures.

The finding was determined to be more than minor because it was associated with the Procedure Quality attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance because the upper airlock inner door remained closed and the finding did not represent an actual open pathway in the physical integrity of reactor containment.

Inspection Report# : [2008004 \(pdf\)](#)

Emergency Preparedness

G

Significance: Dec 31, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

LOSS OF THE V-1F AND V-2F NON-VITAL BUSES RESULTING THE THE LOSS OF TECHNICAL SUPPORT CENTER COMPUTERS

A finding of very low safety significance was self-revealed on October 30, 2008, when licensee personnel failed to appropriately respond to a Technical Support Center (TSC) computer room high temperature alarm. As a result, electrical power supply to plant emergency response equipment and control systems was interrupted. Affected systems included the Integrated Computer System (ICS), Emergency Response Data System (ERDS), one train of power to the Digital Feedwater Control System (DFWCS), and the chemistry computer. As part of their immediate corrective actions, licensee personnel restored the affected systems entered the issue into their corrective action

program.

This finding is considered more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and affected the objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was determined to be of very low safety significance because the equipment was restored to a functional status in less than seven days. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to ensure that issues were identified accurately and in a timely manner commensurate with their significance as defined in Inspection Manual Chapter 0305 P.1(a).

Inspection Report# : [2008005 \(pdf\)](#)

Occupational Radiation Safety

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEQUATE EVALUATION TO DETERMINE THE USE OF RESPIRATORY PROTECTION EQUIPMENT AND/OR ENGINEERING CONTROLS

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was identified for the failure to perform an adequate survey (evaluation) to determine whether the use of respiratory protection equipment and/or engineering controls were necessary to maintain the total effective dose equivalent As-Low-As-Is-Reasonably-Achievable (ALARA). Specifically, a high efficiency particulate air vacuum cleaner that was used during a spent fuel pool clean-up campaign was opened without fully evaluating the potential hazards. As a result, two contracted decontamination technicians received an unplanned intake of radioactive materials. As immediate actions, the licensee assessed the internal dose to the workers and secured the area to minimize additional exposure. The licensee entered the issue into its corrective action program as CR 08-33692.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not performing adequate evaluations to determine the use of respiratory protection equipment and/or engineering controls for the work resulted in unplanned, additional dose to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the Human Performance area per IMC 0305 H.4(c), because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2009002 \(pdf\)](#)

Public Radiation Safety

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO DOCUMENT ALL APPLICABLE HAZARDS ON SHIPPING MANIFEST

A self-revealed finding of very low safety significance and an associated NCV of Title 10 CFR 71.5 was identified. Specifically, the licensee failed to comply with Title 49 CFR 172.203(c) and shipped a package of radioactive material with a transport manifest that did not document all applicable hazardous substances. The issue was entered in the licensee's corrective action program as CR 07-23098. The licensee's immediate corrective actions were to provide

a corrected copy of the transport manifest to the waste processor and to initiate an apparent cause investigation to identify corrective actions to avoid recurrence.

The finding is more than minor because it was associated with the Public Radiation Safety cornerstone attribute of Program and Process (transportation program) and affected the cornerstone objective, in that, providing incorrect information, as part of hazard communication, could impact the actions of response personnel. The finding was determined to be of very low safety significance because using the Public Radiation Safety SDP, the inspector determined that: (1) radiation limits were not exceeded; (2) there was no breach of a package during transit; (3) it did not involve a certificate of compliance issue; (4) it was not a low level burial ground nonconformance; and (5) it did not involve a failure to make notifications or provide emergency information. Because the finding was not indicative of current performance, a cross-cutting aspect was not identified.

Inspection Report# : [2009002](#) (*pdf*)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 30, 2009

Identified By: NRC

Item Type: FIN Finding

PI&R Report Summary

Based on the sample selected for review, the team concluded that implementation of the corrective action program (CAP) was adequate. The licensee had a low threshold for identifying problems and entering them in the CAP. Items entered into the CAP were screened and prioritized in a timely manner using established criteria; were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. The team noted that the licensee reviewed operating experience for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of licensee self-assessments and interviews conducted during the inspection, workers at the site expressed freedom to raise safety concerns. The team observed that improvements have been made in the licensee's identification and assessment of human performance issues and in root and full apparent cause analyses quality. While noting some improvement in the identification of negative trends, the team also noted that in at least one case the licensee had not identified a negative trend in an area previously highlighted by an NRC finding and associated non-cited violation.

Inspection Report# : [2009006](#) (*pdf*)

Last modified : May 28, 2009

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2Q/2009 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inability to Operate RHR common suction Line Valve

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the failure to implement the requirements of licensee (normal operating procedure) NOP OP-1014, "Plant Status Control," Revision 00. Specifically, operations personnel used a mechanical advantage device to operate valve 1E12F0010 without evaluating the affect on the valve. Damage to residual heat removal (RHR) valve 1E12F0010 prevented the plant from entering shutdown cooling. It was determined that the valve operator stem sheared due to excessive torque used to operate the valve. As part of their immediate corrective actions, licensee personnel repaired the valve stem operator to restore shutdown cooling and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the failure of the RHR shutdown cooling common suction isolation valve caused both trains of shutdown cooling to be unavailable during shutdown operations. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 7, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee did not ensure adequate supervisory and management oversight of work activities to ensure nuclear safety. Specifically, supervisors were aware of the use of mechanical advantage devices on the RHR shutdown cooling common suction manual isolation valve and did not ensure an appropriate evaluation was conducted.

Inspection Report# : [2009003 \(pdf\)](#)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Near Loss of Shutdown Cooling due to Maintenance Activity

. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when technicians performed maintenance on protected equipment without implementing risk management requirements specified in station procedures. This resulted in a loss of shutdown cooling flow to the reactor coolant system. Specifically, the licensee established procedure NOP-OP-1005, "Shutdown Defense in Depth," Revision 10 as the implementing procedure to manage risk during shutdown conditions. The licensee failed to implement the significant risk management actions prescribed in procedure NOP-OP-1005 for maintenance on protected equipment. This resulted in a blown fuse in the reactor protection system causing a loss of shutdown cooling flow to the reactor coolant system. The licensee replaced the fuse and restored shutdown cooling. This issue was entered into the corrective action program as CR 09-58110.

The finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a loss of reactor decay heat removal event while the reactor was shutdown. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did

not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site conditions, or the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Work on Wrong Relay Potential Impact on Shutdown Cooling

A finding of very low safety significance was self-revealed on April 28, 2009, for the failure to follow maintenance procedure PTI-N41-P0002, “Generator Switchgear Protective Relay Trip Test,” when electricians performed maintenance on an incorrect relay associated with bus L11. The licensee posted bus L11 as a protected train and repaired the 1R22-Q103A and 86B circuitry. The licensee entered the issue into their corrective action program as CR-09-58187.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, had the 1R22-Q103A relay circuitry functioned as designed, a loss of decay heat removal event would have occurred. Using IMC 0609, Appendix G, “Shutdown Operation Significance Determination Process,” Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(a), because the licensee did not use error prevention techniques commensurate with the risk of the maintenance activity.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INEFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH THE MOTOR FEEDWATER PUMP IN 10 CFR 50.65(a)(1) STATUS

A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(1) was identified by the inspectors for the licensee's failure to take reasonable corrective action to avoid recurrence of unavailability of a component in accordance with the maintenance rule. The inspectors determined that the licensee failed to implement the corrective action identified by the expert review panel, after the motor feedwater pump (MFP) did not meet licensee established goals. Specifically, the licensee failed to continuously run a purifier on the MFP lube oil sump to ensure the MFP was capable of fulfilling its intended function. On August 2, 2008, the portable lube oil purifier failed and the licensee did not connect a readily available purifier until after water intrusion into the oil rendered the MFP unavailable on August 7, 2008, and the plant entered YELLOW probabilistic safety assessment (PSA) risk. The licensee entered this issue into their corrective action program, attached the available lube oil purifier to restore the MFP, and purchased an additional lube oil purifier to ensure the plant would continue to implement the program's corrective action to avoid further MFP unavailability.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during plant operations. Specifically, the failure to implement a corrective action challenged the availability of a risk-significant component with a known degraded

equipment problem and placed the plant in unplanned YELLOW PSA risk. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c) because the organization failed to properly prioritize the purification system repair. The inspectors determined that the finding was of very low safety significance following an SDP review.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSPECTIONS ON THE RPV HEAD STRONGBACK LIFTING DEVICE MAJOR LOAD-CARRYING WELDS AND CRITICAL AREAS

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." The inspectors determined that the licensee failed to perform required nondestructive testing on the reactor pressure vessel (RPV) head strongback. Specifically, on February 25, 2009, the licensee failed to conduct a complete nondestructive examination (NDE) of a structural weld associated with the strongback lifting device. As part of their corrective actions, the licensee entered the issue into its corrective action program and performed a functionality assessment of the RPV head strongback, prior to lifting the RPV head, to assure that the strongback could perform its design function.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the purpose of the NDE testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of an RPV head strongback structural component failure, and hence, to assure safe load handling of heavy loads over the reactor core or over safety-related systems. The inspectors determined that the finding was of very low safety significance following a qualitative SDP review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c), because the licensee failed to thoroughly evaluate corrective actions to ensure they appropriately addressed the identified issue.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

LOSS OF SERVICE AIRE TO MAIN STEAM LINE PLUGS

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on March 7, 2009, when main steam line plug seal pressure began to drop unexpectedly while the reactor cavity was flooded for refueling operations. Operators failed to conduct an adequate shift turnover regarding the configuration of service air isolation valves to containment affecting the main steam line plugs and subsequently isolated the air supply to the plug seals. As part of their immediate corrective actions, licensee personnel restored air to the main steam line plug seals and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of configuration control and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, loss of air pressure to main steam line seals increased the likelihood of a loss of reactor water inventory event during refueling operations. The finding was determined to be of very low safety significance following a Phase II SDP review. This finding has a cross-cutting aspect in the area of Human Performance, work control, per IMC 0305 H.3(b) because the licensee did not appropriately coordinate work activities associated with service air system testing.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MAINTENANCE ON HPCS SYSTEM RESULTED IN EMERGENCY OPERATING PROCEDURE ENTRY

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on February 3, 2009, when the control room received an unexpected high pressure core spray (HPCS) pump room sump level high alarm and entered Emergency Operating Procedure (EOP) – 3, "Secondary Containment Control." The licensee did not properly control a maintenance activity on the HPCS system resulting in unexpected water spray in the HPCS pump room. As part of their immediate corrective actions, licensee personnel recovered from the drain down of the system and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The event challenged shutdown operations as operators entered the EOP and responded to reports of significant water spray entering the pump room. The finding was determined, through an SDP analysis, to be of very low safety significance as no mitigation equipment or functions were affected. The primary cause of this finding was related to the cross-cutting aspect in the area of Human Performance per IMC 0305 H.3(a) because the organization failed to appropriately plan work activities that impact plant structures and systems, and failed to ensure appropriate contingencies were in place to perform a maintenance activity.

Inspection Report# : [2009002 \(pdf\)](#)

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INSPECTION PROCEDURE FOR RPV HEAD STRONGBACK OMITTED NON-DESTRUCTIVE TESTING OF STRUCTURAL WELDS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Specifically, the licensee failed to perform nondestructive testing of reactor pressure vessel (RPV) head strongback major load carrying welds and critical areas required by American National Standards Institute (ANSI) N14.6-1978. The issue was entered into the licensee's corrective action program, and the licensee revised a procedure to perform nondestructive testing of RPV head strongback major load carrying welds and critical areas.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown. Specifically, the purpose of the nondestructive testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of a RPV head strongback structural component failure, and hence, to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review. The finding has a cross-cutting aspect in the area of human performance as defined in Inspection Manual Chapter 0305 H.2(c), because the licensee did not provide a complete, accurate, and up-to-date procedure to plant personnel.

Inspection Report# : [2008005 \(pdf\)](#)

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

CONTAINMENT POLAR CRANE TROLLEY SEISMIC RESTRAINTS DID NOT MEET SEISMIC CATEGORY I REQUIREMENTS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, the design basis structural analysis for the containment polar crane trolley did not adequately evaluate the trolley seismic restraints. Specifically, the trolley

seismic restraint calculation failed to ensure that design stresses remained below acceptance limits. Also, the as-built configuration of the trolley seismic restraints was not in accordance with the analyzed condition. As a result, the design basis calculation was not sufficient to ensure conformance with Seismic Category I requirements for safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The issues were entered into the licensee's corrective action program. The licensee initiated the revision of the trolley seismic restraint calculation and the restoration of the trolley seismic restraint as-built condition to meet Seismic Category I requirements.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, compliance with Seismic Category I design requirements was to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review.

Inspection Report# : [2008005](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Adequately Manage Risk Associated With Working Around a Risk-Significant Underground Vault

A finding of very low safety significance was self-revealed on July 30, 2008. While performing inspection and dewatering of an underground vault area, plant workers inadvertently dropped a man-hole cover into the vault. The 15-foot vault area contained 125 Volts direct current control power conduits that supplied fault protection circuitry for switchyard breakers. The licensee entered the issue into their corrective action program.

This finding was considered more than minor because it was related to maintenance risk assessment and risk management issues. Specifically, the licensee failed to manage risk for maintenance activities associated with the electrical switchyard that could increase the likelihood of initiating events by causing a loss of offsite power. The finding was determined through a SDP analysis to be of very low safety significance as no mitigation equipment or functions were affected. This finding had a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.4(a), because the organization failed to ensure the use of human error prevention techniques commensurate with the risk of the assigned task. No violation of NRC requirements occurred.

Inspection Report# : [2008004](#) (pdf)

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Loss of Configuration Control of the Hydrogen Water Chemistry Injection System Resulting in High Radiation Levels.

A finding of very low safety significance was self-revealed on June 28, 2008, when high radiation alarms for all four main steam lines were received in the control room during a plant power maneuver. Specifically, maintenance technicians failed to adhere to procedures and manipulated a hydrogen water chemistry control system while performing a surveillance test associated with the plant off-gas system. The off-gas system surveillance test procedure did not address operation of the hydrogen water chemistry control system and the technicians were not trained to operate the system. As part of their immediate corrective actions, the licensee corrected the system lineup to reduce radiation levels and entered the issue into their corrective action program.

This finding was considered more than minor because the manipulation of plant systems that are different from those specified in the authorized work procedure would become a more significant safety concern if left uncorrected. In this case, the finding led to an unexpected increase in radiation levels in areas accessible to plant personnel and was associated with the operating equipment lineup of the configuration control attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The finding was determined through a SDP analysis to be of very low safety significance as no mitigation equipment or functions were affected and no actual increase in personnel exposure occurred. This finding has a cross-

cutting aspect in the area of Human Performance as defined in IMC 0305 H.4(b), because the organization failed to ensure that personnel do not proceed with a task in the face of uncertainty. No violation of NRC requirements occurred.

Inspection Report# : [2008004](#) (*pdf*)

Mitigating Systems

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Prevent Contact of Energized Components Renders RCIC System Inoperable

A finding of very low safety significance (Green) and associated NCV of Technical Specification 5.4.1 was self-revealed when technicians failed to implement actions to prevent contact of energized electrical components during maintenance. Specifically, the reactor core isolation cooling (RCIC) Division 2 logic tripped while attempting to lift leads and a test lug. The technicians suspended their surveillance procedure and operators restored the RCIC system in accordance with licensee procedures. Operators also verified high pressure core spray (HPCS) was operable. The licensee visually inspected the RCIC system and found no apparent damage. The licensee conducted additional training on the use of error prevention tools and entered the issue into the corrective action program as CR 09-59356. The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the short circuit resulted in the RCIC system being inoperable. The finding was determined to have very low safety significance because it did not represent a loss of system safety function, a loss of safety function of a non-TS train designated as risk significant for greater than 24 hours, an actual loss of safety function of a single train for greater than its TS- allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of human performance per IMC 0305 H.4 (a) because the technician failed to use error prevention techniques, such as self-checking, that are commensurate with the risk of the assigned task. Specifically not using 'STAR' (Stop, Think, Act, Review) during an activity that could render the RCIC system inoperable.

Inspection Report# : [2009003](#) (*pdf*)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RHR System Over-Pressurization Due to Failure to Implement Corrective Actions for a Condition Adverse to Quality

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed for the failure to implement corrective actions to ensure residual heat removal (RHR) check valve 1E12F0050A seated during plant pressurizations. Specifically, the licensee failed to establish and maintain corrective actions for check valve 1E12F0050A inability to seat under low differential pressure conditions, resulting in the over-pressurization of a section of RHR system piping. As part of the licensee's corrective action, the operators depressurized the RHR system below operating pressure and were revising procedures to ensure the check valve 1E12F0050A seats fully during system pressurization. This issue was entered into the licensee corrective action program by CR 09-58808 and CR 09-58995 and an appropriate permanent corrective action was being evaluated.

The inspectors determined that the finding was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, removal of the RHR venting evolution from station procedures resulted in an unexpected over-pressurization which could have resulted in system damage. Using IMC 0609, Appendix G, "Shutdown Operations Significant Determination Process," Checklist 8, the inspectors determined that the finding did not require

a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of problem identification and resolution per IMC 0305 P.1(c), because the organization failed to thoroughly evaluate the impact of modifying a corrective action. Specifically, the licensee failed to thoroughly evaluate the consequences of removing the venting section of a procedure that was a corrective action for the check valve's inability to seat under low differential pressure conditions.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Procedures for Post Fire Operation of Control Room HVAC Fans and Control of Remote Shutdown Room Toolbox Inventory.

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1a for failure to maintain procedures for post-fire operation of control room heating, ventilation, and air conditioning (HVAC) Train A fans and for control of the Division 1 remote shutdown room toolbox inventory. Specifically, Procedure ARI H13 P904 0001 B6, "Control Room HVAC Train A Tripped," stated that if a fire has occurred and the Train A fans have tripped, then restart the Train A fans in emergency recirculation mode. The correct action was to restore Train B fans in emergency recirculation mode. In addition, Procedure IOI 11 "Control Room Isolation," Attachment 20, contained a list of equipment operators were to obtain from the toolbox, located by the alternate remote shutdown panel, following a control room fire. The list included nine items; one of the items consisting of three FRS R 4 Amp fuses was missing. The procedure should have been revised to remove the requirement to obtain the fuses. The licensee entered this finding into their corrective action program as CR 09 60317 and CR 09 60373.

The finding was determined to be more than minor because the finding was associated with the mitigating system cornerstone attribute of procedure quality and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to maintain the procedures could have complicated plant safe shutdown in the event of a fire. The inspectors determined that the finding was of very low safety-significance since the procedure deficiencies did not substantially impact performance in the event of a fire.

Inspection Report# : [2009007](#) (pdf)

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Assure That Systems Structures and Components Necessary to Achieve And Maintain Hot Shutdown Conditions Were Free of Fire Damage Without Repair Actions.

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.2, involving the licensee's failure to ensure, in the event of a fire, that one redundant train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage. Specifically, the licensee failed to ensure, in the event of a control room fire, certain Systems, Structures, and Components (SSCs) necessary to achieve and maintain hot shutdown conditions (e.g., MOVs 1P45 F0014A and 1P45 F0068A and emergency service water system (ESW) equipment) were free of fire damage. The licensee entered this finding into their corrective action program for resolution as CR 09 60977. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase 2 screening determined this finding was of very low safety-significance because no potentially challenging fire scenarios were developed.

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Required Electrical Isolation for Post Fire Safe Shutdown Electrical Circuits

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.3, for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for the Division 1 diesel generator building ventilation fan 1M43 C001A did not have the required physical isolation to isolate control room fire-induced electrical faults when transferring control to the remote shutdown station. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform a preliminary evaluation of the electrical circuitry and cables. The licensee entered this finding into their corrective action program as CR 09 60873. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined the finding degraded the fire protection defense-in-depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process [SDP]," the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a control room fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screened as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy. The cause of the finding related to the cross-cutting aspect of problem identification and resolution (Section 1R05.6b).

Significance: SL-IV Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO REPORT ALL 10 CFR 50.73 REPORTABLE EVENTS ASSOCIATED WITH THE DISCOVERY OF LOOSE CONTAINMENT GRATING

The inspectors identified a non-cited violation of 10 CFR 50.73(a)(1), "Licensee Event Reports." The inspectors determined that the licensee failed to submit a required Licensee Event Report (LER) within 60 days after discovery of conditions requiring a report. On August 26, 2007, the licensee identified improperly installed containment floor grating that affected safety system operability. The licensee failed to report conditions of operations prohibited by Technical Specification, operations in an unanalyzed condition, and loss of safety function from August 6 to August 9, 2007, that were associated with inoperability of low pressure core injection 'A.' The licensee entered this issue into their corrective action program.

The primary cause of this non-cited violation was related to the cross-cutting area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c) because the licensee failed to thoroughly evaluate problems for reportability conditions.

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Impaired Fire Barrier for Safety-Related Building

The inspectors identified a finding of very low safety significance and an associated NCV of the Perry Nuclear Power Plant Operating License Condition C(6). During a maintenance activity, licensee personnel degraded a fire barrier in a manner that was contrary to the procedural requirements of the Perry Plant Fire Protection Program. As part of their immediate corrective action, the licensee restored the fire barrier and entered the issue into their corrective action program.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Disposition Screening," because the finding was associated with protection against external factors attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, by the inappropriate use of fixed impairments on the fire doors between the diesel fire pump room and the emergency service water pumphouse, the licensee removed a fire barrier which could impact safety-related equipment. The finding was determined to be of very low safety significance during a Phase 2 SDP review. This finding has a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.4(a), because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2008004 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Compensatory Measures for a Risk-Management Activity

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(4) for failure to assess and manage the risk associated with maintenance activity affecting the low pressure core spray system. Specifically, the licensee removed floor plugs in the auxiliary building and failed to implement risk control measures to assure operability of low pressure core spray. As part of their immediate corrective actions, the licensee personnel re-installed building floor plugs and returned low pressure core spray to an operable status.

The finding was considered more than minor because the licensee failed to prescribe significant compensatory measures for external conditions; and if the practice were left uncorrected, the issue would become a more significant safety concern. The finding was of very low safety significance because the incremental core damage frequency associated with the activity was less than 1×10^{-6} . This finding has a cross-cutting aspect in the area of Human Performance as defined in IMC 0305 H.3(a), because the organization failed to adequately plan work activities that are associated with risk.

Inspection Report# : [2008004 \(pdf\)](#)

G

Significance: Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedurally-Required Risk management Activity for a Protected Train

The inspectors identified a finding of very low safety significance and a NCV of 10 CFR 50.65(a)(4) for failure to implement a procedurally-required risk management activity for a safety system protected train. The licensee failed to provide required management oversight of work on emergency closed cooling 'A' while the plant was in Yellow Risk. The licensee entered the issue into their corrective action program.

The finding was considered more than minor because the licensee failed to effectively manage significant compensatory measures for an elevated risk condition; and if the practice were left uncorrected, the issue would become a more significant safety concern. The finding was of very low safety significance, because the incremental core damage frequency associated with the activity was less than 1×10^{-6} . This finding has a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.3(a), because the organization failed to adequately plan work activities that are associated with risk.

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Use procedures for Work Affecting Safety

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed on August 4, 2008, when contract workers bored a hole into a safety-related structure in an inappropriate location. The workers did not use documented instructions, procedures, or drawings when performing the work. As part of their immediate corrective actions, the licensee conducted worker training and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the design control attribute of Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the licensee initiated work on a seismically qualified structure in the absence of an approved work package and degraded the structure. The finding was determined to be of very low safety significance because it did not result in safety system inoperability. This finding had a cross-cutting aspect in the area of Human Performance as defined by IMC 0305 H.4.(a), because the licensee failed to communicate human error prevention techniques through a pre-job brief and personnel proceeded in the face of unexpected circumstances.

Barrier Integrity

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Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RCS Temp Below Minimum Allowed by TS due to Inadequate Station Procedures

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when operators failed to maintain reactor coolant system (RCS) temperature greater than the Technical Specification minimum allowable temperature because Integrated Operations Instruction (IOI)-9, "Refueling," was inadequate. The licensee did not properly control an outage activity in that they failed to ensure the water sprayed into the reactor pressure vessel met temperature requirements. As part of their immediate corrective actions, licensee personnel stopped the activity and restored the RCS system above the TS 3.4.11 temperature requirements of 70 °F. The licensee entered this issue into the corrective action program as CR 09-55397.

This finding was determined to be more than minor because it was associated with the procedure quality attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, failure to maintain RCS temperature greater than the minimum allowed by TS affected the functionality of this barrier. Using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a) because the organization failed to appropriately plan work and coordinate work activities consistent with nuclear safety. Specifically, job site conditions, including environmental conditions which may impact plant structures, systems, and components; were not considered to ensure water sprayed into the RCS would maintain temperature above 70 °F.

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Follow Industrial Safety Manual Results in Damage to Fuel Handling building Roll-up Door

A finding of very low safety significance was self-revealed when contract personnel failed to follow the FENOC Industrial Safety Manual to control vehicle movement inside the fuel handling building (FHB). Specifically, a Sealand truck backed into the FHB roll-up door, dislodging the door in the open position. The licensee suspended fuel movements and implemented compensatory measures for containment integrity. The licensee repaired the roll-up door and conducted training with contract and oversight personnel, and entered the issue into the corrective action program as CR 09 56062.

The finding was determined to be more than minor because the finding was associated with Barrier Integrity cornerstone attribute of SSC and barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the finding resulted in an event that challenged FHB integrity, which is a functional barrier to fission product release. Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," does not address the potential risk significance of FHB operations. Regional management determined that the finding was of very low safety significance because there was no fuel handling accident during this period. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee failed to ensure adequate supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

G

Significance: Jan 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING CONTAINMENT SYSTEMS

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was identified by the team for the failure to erect scaffolding in accordance with procedural requirements. Specifically, scaffold constructed in the Intermediate Building had seismic bracing attached to a safety related cable tray support and was connected to a duct support without an approved engineering document as specified in procedural requirements.

Although the licensee was able to demonstrate that the cable tray support and duct support were operable, the finding was determined to be more than minor because there was reasonable doubt that the licensee routinely performed engineering evaluations on similar scaffold issues. The finding was determined to be of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment. This finding had a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the licensee failed to provide effective oversight of the erected seismic scaffold to ensure compliance with procedural requirements [H.4(c)].

G

Significance: Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Adequacy of Airlock Ball Valve Maintenance

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR Part 50 Appendix B,

Criterion 5 ,” Procedures,” was identified on June 1, 2008, when a containment airlock door seal failed during routine operations. On March 26, 2008, the licensee failed to implement airlock maintenance procedures appropriate to the circumstances and this led to a failure of the containment upper airlock outer door seal. As part of their corrective actions, the licensee conducted training and revised procedures.

The finding was determined to be more than minor because it was associated with the Procedure Quality attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance because the upper airlock inner door remained closed and the finding did not represent an actual open pathway in the physical integrity of reactor containment.

Inspection Report# : [2008004 \(pdf\)](#)

Emergency Preparedness

G

Significance: Dec 31, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

LOSS OF THE V-1F AND V-2F NON-VITAL BUSES RESULTING THE THE LOSS OF TECHNICAL SUPPORT CENTER COMPUTERS

A finding of very low safety significance was self-revealed on October 30, 2008, when licensee personnel failed to appropriately respond to a Technical Support Center (TSC) computer room high temperature alarm. As a result, electrical power supply to plant emergency response equipment and control systems was interrupted. Affected systems included the Integrated Computer System (ICS), Emergency Response Data System (ERDS), one train of power to the Digital Feedwater Control System (DFWCS), and the chemistry computer. As part of their immediate corrective actions, licensee personnel restored the affected systems entered the issue into their corrective action program.

This finding is considered more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and affected the objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was determined to be of very low safety significance because the equipment was restored to a functional status in less than seven days. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to ensure that issues were identified accurately and in a timely manner commensurate with their significance as defined in Inspection Manual Chapter 0305 P.1(a).

Inspection Report# : [2008005 \(pdf\)](#)

Occupational Radiation Safety

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Significance: Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Appropriate Water Shielding Between Irradiated Fuel and in-vessel 360 degree platform

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.4.1.a for the failure to establish, implement, and maintain adequate written procedures regarding the radiation safety program. The licensee failed to implement procedurally required compensatory measures associated with moving irradiated fuel assemblies. Specifically, workers on the 360 platform were within close proximity of the refueling mast while fuel moves were in progress. As corrective actions, the licensee posted information signs to control access to specific areas of the 360 platform and planned to incorporate more rigorous radiological controls into the governing procedure. The licensee entered the issue into its corrective action program as CR 09-54697.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not implementing adequate radiological control may potentially result in unplanned exposures to radioactive material. The finding was determined to be of very low safety significance because it was not an as-low-as-is-reasonably-achievable (ALARA) planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the decision making component of the human performance area in accordance with IMC 0305 H.1(b), because the licensee did not adequately use conservative assumptions in decision making.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Barricade and Conspicuously Post a High Radiation Area

The inspectors reviewed a self-revealing finding of very low safety significance and an associated NCV of Technical Specification 5.4.7.a for the failure to barricade and conspicuously post a high radiation area on the 599' elevation of the auxiliary building. As corrective actions, the licensee barricaded and conspicuously posted the affected area as a high radiation area and performed gravity flushes of piping with clean water to reduce the ambient dose rates. The licensee entered the issue into its corrective action program as CR 09-55453.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the work control component of the human performance area in accordance with IMC 0305 .H.3(b), because the licensee did not adequately coordinate work activities.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEQUATE EVALUATION TO DETERMINE THE USE OF RESPIRATORY PROTECTION EQUIPMENT AND/OR ENGINEERING CONTROLS

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was identified for the failure to perform an adequate survey (evaluation) to determine whether the use of respiratory protection equipment and/or engineering controls were necessary to maintain the total effective dose equivalent As-Low-As-Is-Reasonably-Achievable (ALARA). Specifically, a high efficiency particulate air vacuum cleaner that was used during a spent fuel pool clean-up campaign was opened without fully evaluating the potential hazards. As a result, two contracted decontamination technicians received an unplanned intake of radioactive materials. As immediate actions, the licensee assessed the internal dose to the workers and secured the area to minimize additional exposure. The licensee entered the issue into its corrective action program as CR 08-33692.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not performing adequate evaluations to determine the use of respiratory protection equipment and/or engineering controls for the work resulted in unplanned, additional dose to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the Human Performance area per IMC 0305 H.4(c), because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that

nuclear safety is supported.

Inspection Report# : [2009002](#) (*pdf*)

Public Radiation Safety

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO DOCUMENT ALL APPLICABLE HAZARDS ON SHIPPING MANIFEST

A self-revealed finding of very low safety significance and an associated NCV of Title 10 CFR 71.5 was identified. Specifically, the licensee failed to comply with Title 49 CFR 172.203(c) and shipped a package of radioactive material with a transport manifest that did not document all applicable hazardous substances. The issue was entered in the licensee's corrective action program as CR 07-23098. The licensee's immediate corrective actions were to provide a corrected copy of the transport manifest to the waste processor and to initiate an apparent cause investigation to identify corrective actions to avoid recurrence.

The finding is more than minor because it was associated with the Public Radiation Safety cornerstone attribute of Program and Process (transportation program) and affected the cornerstone objective, in that, providing incorrect information, as part of hazard communication, could impact the actions of response personnel. The finding was determined to be of very low safety significance because using the Public Radiation Safety SDP, the inspector determined that: (1) radiation limits were not exceeded; (2) there was no breach of a package during transit; (3) it did not involve a certificate of compliance issue; (4) it was not a low level burial ground nonconformance; and (5) it did not involve a failure to make notifications or provide emergency information. Because the finding was not indicative of current performance, a cross-cutting aspect was not identified.

Inspection Report# : [2009002](#) (*pdf*)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 30, 2009

Identified By: NRC

Item Type: FIN Finding

PI&R Report Summary

Based on the sample selected for review, the team concluded that implementation of the corrective action program (CAP) was adequate. The licensee had a low threshold for identifying problems and entering them in the CAP. Items entered into the CAP were screened and prioritized in a timely manner using established criteria; were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. The team noted that the licensee reviewed operating experience for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of licensee self-assessments and interviews conducted during the inspection, workers at the site expressed freedom to raise safety concerns. The team observed that improvements have

been made in the licensee's identification and assessment of human performance issues and in root and full apparent cause analyses quality. While noting some improvement in the identification of negative trends, the team also noted that in at least one case the licensee had not identified a negative trend in an area previously highlighted by an NRC finding and associated non-cited violation.

Inspection Report# : [2009006](#) (*pdf*)

Last modified : August 31, 2009

Perry 1

3Q/2009 Plant Inspection Findings

Initiating Events

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

UNEXPECTED HALF SCRAM DUE TO FAULTY TROUBLESHOOTING PLAN

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an appropriate troubleshooting plan for repairing Average Power Range Monitor (APRM) 'A.' Specifically, the troubleshooting plan for inoperable APRM 'A' did not provide proper guidance to the technicians resulting in an unexpected half scram on the reactor protection system and subsequent required operator actions. The licensee entered the error into their corrective action program as CR 09-63991. As part of its corrective actions, the licensee planned to place placards in the APRM cabinets warning of the special instructions to remove and replace the cards.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to change reactor power to maintain reactor power at a stable value. Therefore, the performance deficiency impacted the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site condition, or the need for planned contingencies, compensatory actions and abort criteria. Specifically, licensee personnel did not adequately research the impact of a circuit card's removal and reinsertion into the control circuitry for APRM 'A,' on other related systems contributing directly to an unplanned power transient on the reactor.

Inspection Report# : [2009004](#) ([pdf](#))

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

MOISTURE SEPARATOR REHEATER LEVEL SWITCH MAINTENACE CAUSED UNIT TRIP

A finding of very low safety significance was self-revealed on June 21, 2009, for the failure to adequately implement the requirements of Nuclear Operating Procedure (NOP)-WM-4300, Order Execute Process. Specifically, a supervisor authorized work order steps to be performed out of sequence on level switches for the moisture separator reheaters (MSR). The failure to perform steps in order led to some steps being missed and ultimately to a main turbine trip and associated reactor scram. The licensee entered this item into their corrective action program as CR 09-60855. The licensee's immediate actions included response to the reactor scram and formation of a troubleshooting team to conduct a root cause investigation of the failure of the MSR level indicators.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability. Specifically, inadequate adjustment and calibration of the level switches following replacement resulted in a main turbine trip and reactor scram from full power. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding resulted in a reactor trip, it did not contribute to the likelihood that mitigation

equipment would not be available, therefore, the inspectors determined the finding to be of very low safety significance. This finding has a cross cutting aspect in the area human performance, resources per IMC 0305 H.2(c), because the licensee did not ensure that procedures were adequate to assure nuclear safety. Specifically, the generic instrumentation and control instruction and the work order for conducting maintenance on the moisture separator reheater level switches did not contain critical vendor information or guidance to reflect the significance of taking as found data to support calibration of the replacement switches.

Inspection Report# : [2009004](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inability to Operate RHR common suction Line Valve

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the failure to implement the requirements of licensee (normal operating procedure) NOP OP-1014, "Plant Status Control," Revision 00. Specifically, operations personnel used a mechanical advantage device to operate valve 1E12F0010 without evaluating the affect on the valve. Damage to residual heat removal (RHR) valve 1E12F0010 prevented the plant from entering shutdown cooling. It was determined that the valve operator stem sheared due to excessive torque used to operate the valve. As part of their immediate corrective actions, licensee personnel repaired the valve stem operator to restore shutdown cooling and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the failure of the RHR shutdown cooling common suction isolation valve caused both trains of shutdown cooling to be unavailable during shutdown operations. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 7, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee did not ensure adequate supervisory and management oversight of work activities to ensure nuclear safety. Specifically, supervisors were aware of the use of mechanical advantage devices on the RHR shutdown cooling common suction manual isolation valve and did not ensure an appropriate evaluation was conducted.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Near Loss of Shutdown Cooling due to Maintenance Activity

. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when technicians performed maintenance on protected equipment without implementing risk management requirements specified in station procedures. This resulted in a loss of shutdown cooling flow to the reactor coolant system. Specifically, the licensee established procedure NOP-OP-1005, "Shutdown Defense in Depth," Revision 10 as the implementing procedure to manage risk during shutdown conditions. The licensee failed to implement the significant risk management actions prescribed in procedure NOP-OP-1005 for maintenance on protected equipment. This resulted in a blown fuse in the reactor protection system causing a loss of shutdown cooling flow to the reactor coolant system. The licensee replaced the fuse and restored shutdown cooling. This issue was entered into the corrective action program as CR 09-58110.

The finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a loss of reactor decay heat removal event while the reactor was shutdown. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did

not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site conditions, or the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Work on Wrong Relay Potential Impact on Shutdown Cooling

A finding of very low safety significance was self-revealed on April 28, 2009, for the failure to follow maintenance procedure PTI-N41-P0002, "Generator Switchgear Protective Relay Trip Test," when electricians performed maintenance on an incorrect relay associated with bus L11. The licensee posted bus L11 as a protected train and repaired the 1R22-Q103A and 86B circuitry. The licensee entered the issue into their corrective action program as CR-09-58187.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, had the 1R22-Q103A relay circuitry functioned as designed, a loss of decay heat removal event would have occurred. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(a), because the licensee did not use error prevention techniques commensurate with the risk of the maintenance activity.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INEFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH THE MOTOR FEEDWATER PUMP IN 10 CFR 50.65(a)(1) STATUS

A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(1) was identified by the inspectors for the licensee's failure to take reasonable corrective action to avoid recurrence of unavailability of a component in accordance with the maintenance rule. The inspectors determined that the licensee failed to implement the corrective action identified by the expert review panel, after the motor feedwater pump (MFP) did not meet licensee established goals. Specifically, the licensee failed to continuously run a purifier on the MFP lube oil sump to ensure the MFP was capable of fulfilling its intended function. On August 2, 2008, the portable lube oil purifier failed and the licensee did not connect a readily available purifier until after water intrusion into the oil rendered the MFP unavailable on August 7, 2008, and the plant entered YELLOW probabilistic safety assessment (PSA) risk. The licensee entered this issue into their corrective action program, attached the available lube oil purifier to restore the MFP, and purchased an additional lube oil purifier to ensure the plant would continue to implement the program's corrective action to avoid further MFP unavailability.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during plant operations. Specifically, the failure to implement a corrective action challenged the availability of a risk-significant component with a known degraded equipment problem and placed the plant in unplanned YELLOW PSA risk. The primary cause of this finding was

related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c) because the organization failed to properly prioritize the purification system repair. The inspectors determined that the finding was of very low safety significance following an SDP review.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSPECTIONS ON THE RPV HEAD STRONGBACK LIFTING DEVICE MAJOR LOAD-CARRYING WELDS AND CRITICAL AREAS

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." The inspectors determined that the licensee failed to perform required nondestructive testing on the reactor pressure vessel (RPV) head strongback. Specifically, on February 25, 2009, the licensee failed to conduct a complete nondestructive examination (NDE) of a structural weld associated with the strongback lifting device. As part of their corrective actions, the licensee entered the issue into its corrective action program and performed a functionality assessment of the RPV head strongback, prior to lifting the RPV head, to assure that the strongback could perform its design function.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the purpose of the NDE testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of an RPV head strongback structural component failure, and hence, to assure safe load handling of heavy loads over the reactor core or over safety-related systems. The inspectors determined that the finding was of very low safety significance following a qualitative SDP review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c), because the licensee failed to thoroughly evaluate corrective actions to ensure they appropriately addressed the identified issue.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

LOSS OF SERVICE AIRE TO MAIN STEAM LINE PLUGS

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on March 7, 2009, when main steam line plug seal pressure began to drop unexpectedly while the reactor cavity was flooded for refueling operations. Operators failed to conduct an adequate shift turnover regarding the configuration of service air isolation valves to containment affecting the main steam line plugs and subsequently isolated the air supply to the plug seals. As part of their immediate corrective actions, licensee personnel restored air to the main steam line plug seals and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of configuration control and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, loss of air pressure to main steam line seals increased the likelihood of a loss of reactor water inventory event during refueling operations. The finding was determined to be of very low safety significance following a Phase II SDP review. This finding has a cross-cutting aspect in the area of Human Performance, work control, per IMC 0305 H.3(b) because the licensee did not appropriately coordinate work activities associated with service air system testing.

Inspection Report# : [2009002](#) ([pdf](#))

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MAINTENANCE ON HPCS SYSTEM RESULTED IN EMERGENCY OPERATING PROCEDURE ENTRY

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on February 3, 2009, when the control room received an unexpected high pressure core spray (HPCS) pump room sump level high alarm and entered Emergency Operating Procedure (EOP) – 3, "Secondary Containment Control." The licensee did not properly control a maintenance activity on the HPCS system resulting in unexpected water spray in the HPCS pump room. As part of their immediate corrective actions, licensee personnel recovered from the drain down of the system and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The event challenged shutdown operations as operators entered the EOP and responded to reports of significant water spray entering the pump room. The finding was determined, through an SDP analysis, to be of very low safety significance as no mitigation equipment or functions were affected. The primary cause of this finding was related to the cross-cutting aspect in the area of Human Performance per IMC 0305 H.3(a) because the organization failed to appropriately plan work activities that impact plant structures and systems, and failed to ensure appropriate contingencies were in place to perform a maintenance activity.

Inspection Report# : [2009002](#) (*pdf*)

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

INSPECTION PROCEDURE FOR RPV HEAD STRONGBACK OMITTED NON-DESTRUCTIVE TESTING OF STRUCTURAL WELDS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Specifically, the licensee failed to perform nondestructive testing of reactor pressure vessel (RPV) head strongback major load carrying welds and critical areas required by American National Standards Institute (ANSI) N14.6-1978. The issue was entered into the licensee's corrective action program, and the licensee revised a procedure to perform nondestructive testing of RPV head strongback major load carrying welds and critical areas.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown. Specifically, the purpose of the nondestructive testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of a RPV head strongback structural component failure, and hence, to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review. The finding has a cross-cutting aspect in the area of human performance as defined in Inspection Manual Chapter 0305 H.2(c), because the licensee did not provide a complete, accurate, and up-to-date procedure to plant personnel.

Inspection Report# : [2008005](#) (*pdf*)

G

Significance: Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

CONTAINMENT POLAR CRANE TROLLEY SEISMIC RESTRAINTS DID NOT MEET SEISMIC CATEGORY I REQUIREMENTS

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, the design basis structural analysis for the containment polar crane trolley did not adequately evaluate the trolley seismic restraints. Specifically, the trolley seismic restraint calculation failed to ensure that design stresses remained below acceptance limits. Also, the as-built configuration of the trolley seismic restraints was not in accordance with the analyzed condition. As a result, the design basis calculation was not sufficient to ensure conformance with Seismic Category I requirements for safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The issues

were entered into the licensee's corrective action program. The licensee initiated the revision of the trolley seismic restraint calculation and the restoration of the trolley seismic restraint as-built condition to meet Seismic Category I requirements.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, compliance with Seismic Category I design requirements was to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review.

Inspection Report# : [2008005](#) ([pdf](#))

Mitigating Systems

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEUQATE POST-MAINTENANCE TEST FOLLOWING INSTALLATION OF NEW EMERGENCY DIESEL GENERATOR CARBON DIOXIDE SYSTEM CONTROL PANELS

A finding of very low safety significance (Green) and associated non-cited violation of license condition 2.C.(6), Fire Protection, was self-revealed for the licensee's failure implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR). Specifically, the licensee failed to ensure that, "...the main floor [of the Diesel Generator Building] is protected by a total flooding carbon dioxide system for fire suppression." The licensee had installed a permanent modification to the carbon dioxide system for the diesel generator room, but had chosen not to conduct complete post modification testing. The failure to conduct a complete test resulted in a wiring error to go undetected. Testing after the system was placed in service identified that the system did not function as designed. Troubleshooting identified that Division 2 and 3 emergency diesel generators (EDG) pneumatic electric relays in the new control panel were cross-wired to Division 3 and 2 EDG fan relays, respectively, in the control box. As part of their corrective actions, the licensee re-labeled the wires correctly in the CO₂ panels and landed them on their appropriate terminals. The licensee entered this issue into their corrective action program as CR 09 60866. The licensee's immediate corrective actions included placing the system in lockout and notifying all fire team personnel of the manual actions required to initiate CO₂ flow into the emergency diesel generator rooms.

The finding was determined to be more than minor because, if left uncorrected, the inability of the EDG automatic fire suppression system to perform its function would become a more significant safety concern. Specifically, a fire in the Division 2 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 3 EDG inoperable. Similarly, a fire in the Division 3 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 2 EDG inoperable. The inspectors concluded this finding was associated with the Mitigating Systems cornerstone. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined that the finding degraded the fire protection defense in depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, Significance Determination Process, the performance issue was determined to be in the fixed fire protection systems category based on the fixed fire suppression systems being degraded. This finding did not screen as very low safety significance (Green) in the Phase 1 analysis and a Phase 2 analysis under IMC 0609 Appendix F was required.

A regional senior reactor analyst evaluated this finding and assumed the fire frequency to be 3.0E-2 for the EDG rooms based on the licensee's IPEEE (Individual Plant Examination – External Events). Considering the fire frequency and remaining mitigating capability in the event of a plant transient, the senior reactor analyst determined that the risk associated with this finding was less than 1.0E-06. Therefore, this finding was determined to be best characterized as very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, decision making, per IMC 0609 H.1(b), because the licensee's decisions did not demonstrate that

nuclear safety was an overriding priority. Specifically, the licensee chose to minimize system unavailability time over performing a full and complete post-maintenance test on a newly installed EDG CO₂ control system, a test that would have identified the wiring error.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MMAINTENANCE ERRORS CAUSE LOSS OF DIVISION 1 ECCS ELECTRICAL POWER

A finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1 was self-revealed when the licensee failed to follow Nuclear Operating Procedure (NOP)-WM-3001; Work Management PM Processes. Specifically, step 4.5.5 of NOP-WM-3001 states, “If a General Nuclear Preventative Maintenance (GNPM) Order cannot be completed as planned due to ... replacement of a failed or degraded component, then the MWC Supervisor shall take appropriate actions in accordance with the flow diagram in Attachment 6 ...” During the performance of work order 200297036, for safety related 480-V breaker EF1A03, the supervisor directed a 4-point switch be replaced as part of the work order; however, no evaluation of the change in scope was completed and a CR was not written as required by Attachment 6 of NOP-WM-3001. The failure to evaluate the replacement lead to the loss of power to a number of safety related components. The licensee entered this item into their corrective action program as CR 09-63681. The licensee’s immediate action included entry into the appropriate technical specifications, restoration of the lost electrical power bus and restoration of emergency core cooling systems which were made inoperable as a result of the power loss.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of human performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequate work planning caused a loss of electrical power to bus EF-1-A, the safety-related 480 V power supply to Division 1 components placing the plant in an orange probabilistic safety analysis risk condition. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 Initial Screening and Characterization of Findings,” Table 2, the inspectors determined that core decay heat removal was degraded. Using Table 4a, “Characterization Worksheet for IE, MS, and BI Cornerstones,” the inspectors assessed the finding as having very low safety significance (Green) because no loss of safety system function occurred and no loss of function of a single train occurred for greater than its TS-allowed outage time. This finding has a cross-cutting aspect in the area of human performance, work control per IMC 0609 H.3(b) because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, licensee personnel failed to plan and coordinate the replacement of an auxiliary switch in breaker EF1A03 thereby not incorporating the impact of the changes to the work scope or activity on the plant and human performance.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Prevent Contact of Energized Components Renders RCIC System Inoperable

A finding of very low safety significance (Green) and associated NCV of Technical Specification 5.4.1 was self-revealed when technicians failed to implement actions to prevent contact of energized electrical components during maintenance. Specifically, the reactor core isolation cooling (RCIC) Division 2 logic tripped while attempting to lift leads and a test lug. The technicians suspended their surveillance procedure and operators restored the RCIC system in accordance with licensee procedures. Operators also verified high pressure core spray (HPCS) was operable. The licensee visually inspected the RCIC system and found no apparent damage. The licensee conducted additional training on the use of error prevention tools and entered the issue into the corrective action program as CR 09-59356. The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the short circuit resulted in the RCIC system being inoperable. The finding was determined to have very low safety significance because it did not represent a loss of system safety function, a loss of safety function of a non- TS train designated as risk significant for greater than 24 hours, an actual loss of safety function of a single train for greater than its TS- allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of human performance per IMC 0305 H.4 (a) because the technician failed to use error prevention techniques, such as self-checking, that are commensurate with the risk of the assigned task. Specifically not using 'STAR' (Stop, Think, Act, Review) during an activity that could render the RCIC system inoperable.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RHR System Over-Pressurization Due to Failure to Implement Corrective Actions for a Condition Adverse to Quality

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed for the failure to implement corrective actions to ensure residual heat removal (RHR) check valve 1E12F0050A seated during plant pressurizations. Specifically, the licensee failed to establish and maintain corrective actions for check valve 1E12F0050A inability to seat under low differential pressure conditions, resulting in the over-pressurization of a section of RHR system piping. As part of the licensee's corrective action, the operators depressurized the RHR system below operating pressure and were revising procedures to ensure the check valve 1E12F0050A seats fully during system pressurization. This issue was entered into the licensee corrective action program by CR 09-58808 and CR 09-58995 and an appropriate permanent corrective action was being evaluated. The inspectors determined that the finding was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, removal of the RHR venting evolution from station procedures resulted in an unexpected over-pressurization which could have resulted in system damage. Using IMC 0609, Appendix G, "Shutdown Operations Significant Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of problem identification and resolution per IMC 0305 P.1(c), because the organization failed to thoroughly evaluate the impact of modifying a corrective action. Specifically, the licensee failed to thoroughly evaluate the consequences of removing the venting section of a procedure that was a corrective action for the check valve's inability to seat under low differential pressure conditions.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Procedures for Post Fire Operation of Control Room HVAC Fans and Control of Remote Shutdown Room Toolbox Inventory.

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1a for failure to maintain procedures for post-fire operation of control room heating, ventilation, and air conditioning (HVAC) Train A fans and for control of the Division 1 remote shutdown room toolbox inventory. Specifically, Procedure ARI H13 P904 0001 B6, "Control Room HVAC Train A Tripped," stated that if a fire has occurred and the Train A fans have tripped, then restart the Train A fans in emergency recirculation mode. The correct action was to restore Train B fans in emergency recirculation mode. In addition, Procedure IOI 11 "Control Room Isolation," Attachment 20, contained a list of equipment operators were to obtain from the toolbox, located by the alternate remote shutdown panel, following a control room fire. The list included nine items; one of the items consisting of three FRS R 4 Amp fuses was missing. The procedure should have been revised to remove the requirement to obtain the fuses. The licensee entered this finding into their corrective action program as CR 09 60317 and CR 09 60373.

The finding was determined to be more than minor because the finding was associated with the mitigating system cornerstone attribute of procedure quality and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to maintain the procedures could have complicated plant safe shutdown in the event of a fire. The inspectors determined that the finding was of very low safety-significance since the procedure deficiencies did not substantially impact performance in the event of a fire.

Inspection Report# : [2009007](#) ([pdf](#))

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Assure That Systems Structures and Components Necessary to Achieve And Maintain Hot Shutdown Conditions Were Free of Fire Damage Without Repair Actions.

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.2, involving the licensee's failure to ensure, in the event of a fire, that one redundant train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage. Specifically, the licensee failed to ensure, in the event of a control room fire, certain Systems, Structures,

and Components (SSCs) necessary to achieve and maintain hot shutdown conditions (e.g., MOVs 1P45 F0014A and 1P45 F0068A and emergency service water system (ESW) equipment) were free of fire damage. The licensee entered this finding into their corrective action program for resolution as CR 09 60977. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase 2 screening determined this finding was of very low safety-significance because no potentially challenging fire scenarios were developed.

Inspection Report# : [2009007](#) ([pdf](#))

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Required Electrical Isolation for Post Fire Safe Shutdown Electrical Circuits

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.3, for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for the Division 1 diesel generator building ventilation fan 1M43 C001A did not have the required physical isolation to isolate control room fire-induced electrical faults when transferring control to the remote shutdown station. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform a preliminary evaluation of the electrical circuitry and cables. The licensee entered this finding into their corrective action program as CR 09 60873. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined the finding degraded the fire protection defense-in-depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process [SDP]," the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy

Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a control room fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screened as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy. The cause of the finding related to the cross-cutting aspect of problem identification and resolution (Section 1R05.6b).

Inspection Report# : [2009007](#) ([pdf](#))

Significance: SL-IV Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO REPORT ALL 10 CFR 50.73 REPORTABLE EVENTS ASSOCIATED WITH THE DISCOVERY OF LOOSE CONTAINMENT GRATING

The inspectors identified a non-cited violation of 10 CFR 50.73(a)(1), "Licensee Event Reports." The inspectors determined that the licensee failed to submit a required Licensee Event Report (LER) within 60 days after discovery of conditions requiring a report. On August 26, 2007, the licensee identified improperly installed containment floor grating that affected safety system operability. The licensee failed to report conditions of operations prohibited by Technical Specification, operations in an unanalyzed condition, and loss of safety function from August 6 to August 9, 2007, that were associated with inoperability of low pressure core injection 'A.' The licensee entered this issue into their corrective action program.

The primary cause of this non-cited violation was related to the cross-cutting area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c) because the licensee failed to thoroughly evaluate problems for reportability conditions.

Inspection Report# : [2008005](#) ([pdf](#))

Barrier Integrity

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RCS Temp Below Minimum Allowed by TS due to Inadequate Station Procedures

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when operators failed to maintain reactor coolant system (RCS) temperature greater than the Technical Specification minimum allowable temperature because Integrated Operations Instruction (IOI)-9, "Refueling," was inadequate. The licensee did not properly control an outage activity in that they failed to ensure the water sprayed into the reactor pressure vessel met temperature requirements. As part of their immediate corrective actions, licensee personnel stopped the activity and restored the RCS system above the TS 3.4.11 temperature requirements of 70 °F. The licensee entered this issue into the corrective action program as CR 09-55397.

This finding was determined to be more than minor because it was associated with the procedure quality attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, failure to maintain RCS temperature greater than the minimum allowed by TS affected the functionality of this barrier. Using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a) because the organization failed to appropriately plan work and coordinate work activities consistent with nuclear safety. Specifically, job site conditions, including environmental conditions which may impact plant structures, systems, and components; were not considered to ensure water sprayed into the RCS

would maintain temperature above 70 °F.

Inspection Report# : [2009003](#) (*pdf*)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Follow Industrial Safety Manual Results in Damage to Fuel Handling building Roll-up Door

A finding of very low safety significance was self-revealed when contract personnel failed to follow the FENOC Industrial Safety Manual to control vehicle movement inside the fuel handling building (FHB). Specifically, a Sealand truck backed into the FHB roll-up door, dislodging the door in the open position. The licensee suspended fuel movements and implemented compensatory measures for containment integrity. The licensee repaired the roll-up door and conducted training with contract and oversight personnel, and entered the issue into the corrective action program as CR 09 56062.

The finding was determined to be more than minor because the finding was associated with Barrier Integrity cornerstone attribute of SSC and barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the finding resulted in an event that challenged FHB integrity, which is a functional barrier to fission product release. Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," does not address the potential risk significance of FHB operations. Regional management determined that the finding was of very low safety significance because there was no fuel handling accident during this period. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee failed to ensure adequate supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2009003](#) (*pdf*)

G

Significance: Jan 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING CONTAINMENT SYSTEMS

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was identified by the team for the failure to erect scaffolding in accordance with procedural requirements. Specifically, scaffold constructed in the Intermediate Building had seismic bracing attached to a safety related cable tray support and was connected to a duct support without an approved engineering document as specified in procedural requirements.

Although the licensee was able to demonstrate that the cable tray support and duct support were operable, the finding was determined to be more than minor because there was reasonable doubt that the licensee routinely performed engineering evaluations on similar scaffold issues. The finding was determined to be of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment. This finding had a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the licensee failed to provide effective oversight of the erected seismic scaffold to ensure compliance with procedural requirements [H.4(c)].

Inspection Report# : [2009006](#) (*pdf*)

Emergency Preparedness

G**Significance:** Dec 31, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

LOSS OF THE V-1F AND V-2F NON-VITAL BUSES RESULTING THE LOSS OF TECHNICAL SUPPORT CENTER COMPUTERS

A finding of very low safety significance was self-revealed on October 30, 2008, when licensee personnel failed to appropriately respond to a Technical Support Center (TSC) computer room high temperature alarm. As a result, electrical power supply to plant emergency response equipment and control systems was interrupted. Affected systems included the Integrated Computer System (ICS), Emergency Response Data System (ERDS), one train of power to the Digital Feedwater Control System (DFWCS), and the chemistry computer. As part of their immediate corrective actions, licensee personnel restored the affected systems entered the issue into their corrective action program.

This finding is considered more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and affected the objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was determined to be of very low safety significance because the equipment was restored to a functional status in less than seven days. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to ensure that issues were identified accurately and in a timely manner commensurate with their significance as defined in Inspection Manual Chapter 0305 P.1(a).

Inspection Report# : [2008005 \(pdf\)](#)

Occupational Radiation Safety

G**Significance:** Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Appropriate Water Shielding Between Irradiated Fuel and in-vessel 360 degree platform

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.4.1.a for the failure to establish, implement, and maintain adequate written procedures regarding the radiation safety program. The licensee failed to implement procedurally required compensatory measures associated with moving irradiated fuel assemblies. Specifically, workers on the 360 platform were within close proximity of the refueling mast while fuel moves were in progress. As corrective actions, the licensee posted information signs to control access to specific areas of the 360 platform and planned to incorporate more rigorous radiological controls into the governing procedure. The licensee entered the issue into its corrective action program as CR 09-54697.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not implementing adequate radiological control may potentially result in unplanned exposures to radioactive material. The finding was determined to be of very low safety significance because it was not an as-low-as-is-reasonably-achievable (ALARA) planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the decision making component of the human performance area in accordance with IMC 0305 H.1(b), because the licensee did not adequately use conservative assumptions in decision making.

Inspection Report# : [2009003 \(pdf\)](#)**G****Significance:** Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Barricade and Conspicuously Post a High Radiation Area

The inspectors reviewed a self-revealing finding of very low safety significance and an associated NCV of Technical

Specification 5.4.7.a for the failure to barricade and conspicuously post a high radiation area on the 599' elevation of the auxiliary building. As corrective actions, the licensee barricaded and conspicuously posted the affected area as a high radiation area and performed gravity flushes of piping with clean water to reduce the ambient dose rates. The licensee entered the issue into its corrective action program as CR 09-55453.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the work control component of the human performance area in accordance with IMC 0305 .H.3(b), because the licensee did not adequately coordinate work activities.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEQUATE EVALUATION TO DETERMINE THE USE OF RESPIRATORY PROTECTION EQUIPMENT AND/OR ENGINEERING CONTROLS

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was identified for the failure to perform an adequate survey (evaluation) to determine whether the use of respiratory protection equipment and/or engineering controls were necessary to maintain the total effective dose equivalent As-Low-As-Is-Reasonably-Achievable (ALARA). Specifically, a high efficiency particulate air vacuum cleaner that was used during a spent fuel pool clean-up campaign was opened without fully evaluating the potential hazards. As a result, two contracted decontamination technicians received an unplanned intake of radioactive materials. As immediate actions, the licensee assessed the internal dose to the workers and secured the area to minimize additional exposure. The licensee entered the issue into its corrective action program as CR 08-33692.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not performing adequate evaluations to determine the use of respiratory protection equipment and/or engineering controls for the work resulted in unplanned, additional dose to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the Human Performance area per IMC 0305 H.4(c), because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2009002](#) (pdf)

Public Radiation Safety

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO DOCUMENT ALL APPLICABLE HAZARDS ON SHIPPING MANIFEST

A self-revealed finding of very low safety significance and an associated NCV of Title 10 CFR 71.5 was identified. Specifically, the licensee failed to comply with Title 49 CFR 172.203(c) and shipped a package of radioactive material with a transport manifest that did not document all applicable hazardous substances. The issue was entered in the licensee's corrective action program as CR 07-23098. The licensee's immediate corrective actions were to provide a corrected copy of the transport manifest to the waste processor and to initiate an apparent cause investigation to identify corrective actions to avoid recurrence.

The finding is more than minor because it was associated with the Public Radiation Safety cornerstone attribute of Program and Process (transportation program) and affected the cornerstone objective, in that, providing incorrect information, as part of hazard communication, could impact the actions of response personnel. The finding was determined to be of very low safety significance because using the Public Radiation Safety SDP, the inspector determined that: (1) radiation limits were not exceeded; (2) there was no breach of a package during transit; (3) it did not involve a certificate of compliance issue; (4) it was not a low level burial ground nonconformance; and (5) it did not involve a failure to make notifications or provide emergency information. Because the finding was not indicative of current performance, a cross-cutting aspect was not identified.

Inspection Report# : [2009002](#) ([pdf](#))

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 30, 2009

Identified By: NRC

Item Type: FIN Finding

PI&R Report Summary

Based on the sample selected for review, the team concluded that implementation of the corrective action program (CAP) was adequate. The licensee had a low threshold for identifying problems and entering them in the CAP. Items entered into the CAP were screened and prioritized in a timely manner using established criteria; were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. The team noted that the licensee reviewed operating experience for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of licensee self-assessments and interviews conducted during the inspection, workers at the site expressed freedom to raise safety concerns. The team observed that improvements have been made in the licensee's identification and assessment of human performance issues and in root and full apparent cause analyses quality. While noting some improvement in the identification of negative trends, the team also noted that in at least one case the licensee had not identified a negative trend in an area previously highlighted by an NRC finding and associated non-cited violation.

Inspection Report# : [2009006](#) ([pdf](#))

Last modified : December 10, 2009

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4Q/2009 Plant Inspection Findings

Initiating Events

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Significance: Dec 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO ADHERE TO MAINTENANCE INSTRUCTIONS RESULTED IN LOSS OF RECIRCULATION PUMP 'A'

A finding of very low significance was self-revealed on October 15, 2009, when one of two reactor recirculation pumps failed to transfer to slow speed while operators were attempting to downshift both pumps. The finding involved the licensee's failure to adhere to maintenance instructions when personnel incorrectly assembled a relay contactor during maintenance activities on an 'A' recirculation pump low frequency motor generator relay panel. The improperly assembled contactor led to the failure of the 2A breaker to close and re-energize recirculation pump 'A' in slow speed, which caused the loss of the pump and a subsequent unplanned drop in power. No violation of regulatory requirements occurred, and the issue was entered into the licensee's corrective action program.

The failure to adhere to the maintenance instructions resulted in the loss of recirculation pump 'A,' which caused an actual upset in plant stability, and directly affected the objective for the Initiating Events cornerstone. The finding was more than minor because the reactor recirculation pump failure to downshift affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. The primary cause of this finding was related to the cross-cutting area of human performance, per IMC 0305 H.4.a., work practices, human error prevention techniques, because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2009005](#) (pdf)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

UNEXPECTED HALF SCRAM DUE TO FAULTY TROUBLESHOOTING PLAN

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an appropriate troubleshooting plan for repairing Average Power Range Monitor (APRM) 'A.' Specifically, the troubleshooting plan for inoperable APRM 'A' did not provide proper guidance to the technicians resulting in an unexpected half scram on the reactor protection system and subsequent required operator actions. The licensee entered the error into their corrective action program as CR 09-63991. As part of its corrective actions, the licensee planned to place placards in the APRM cabinets warning of the special instructions to remove and replace the cards.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to change reactor power to maintain reactor power at a stable value. Therefore, the performance deficiency impacted the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not

appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site condition, or the need for planned contingencies, compensatory actions and abort criteria. Specifically, licensee personnel did not adequately research the impact of a circuit card's removal and reinsertion into the control circuitry for APRM 'A,' on other related systems contributing directly to an unplanned power transient on the reactor.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

MOISTURE SEPARATOR REHEATER LEVEL SWITCH MAINTENACE CAUSED UNIT TRIP

A finding of very low safety significance was self-revealed on June 21, 2009, for the failure to adequately implement the requirements of Nuclear Operating Procedure (NOP)-WM-4300, Order Execute Process. Specifically, a supervisor authorized work order steps to be performed out of sequence on level switches for the moisture separator reheaters (MSR). The failure to perform steps in order led to some steps being missed and ultimately to a main turbine trip and associated reactor scram. The licensee entered this item into their corrective action program as CR 09-60855. The licensee's immediate actions included response to the reactor scram and formation of a troubleshooting team to conduct a root cause investigation of the failure of the MSR level indicators.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability. Specifically, inadequate adjustment and calibration of the level switches following replacement resulted in a main turbine trip and reactor scram from full power. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding resulted in a reactor trip, it did not contribute to the likelihood that mitigation equipment would not be available, therefore, the inspectors determined the finding to be of very low safety significance. This finding has a cross cutting aspect in the area human performance, resources per IMC 0305 H.2(c), because the licensee did not ensure that procedures were adequate to assure nuclear safety. Specifically, the generic instrumentation and control instruction and the work order for conducting maintenance on the moisture separator reheater level switches did not contain critical vendor information or guidance to reflect the significance of taking as found data to support calibration of the replacement switches.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inability to Operate RHR common suction Line Valve

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the failure to implement the requirements of licensee (normal operating procedure) NOP OP-1014, "Plant Status Control," Revision 00. Specifically, operations personnel used a mechanical advantage device to operate valve 1E12F0010 without evaluating the affect on the valve. Damage to residual heat removal (RHR) valve 1E12F0010 prevented the plant from entering shutdown cooling. It was determined that the valve operator stem sheared due to excessive torque used to operate the valve. As part of their immediate corrective actions, licensee personnel repaired the valve stem operator to restore shutdown cooling and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the failure of the RHR shutdown cooling common suction isolation valve caused both trains of shutdown cooling to be unavailable during shutdown operations. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 7, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative

assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee did not ensure adequate supervisory and management oversight of work activities to ensure nuclear safety. Specifically, supervisors were aware of the use of mechanical advantage devices on the RHR shutdown cooling common suction manual isolation valve and did not ensure an appropriate evaluation was conducted.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Near Loss of Shutdown Cooling due to Maintenance Activity

. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when technicians performed maintenance on protected equipment without implementing risk management requirements specified in station procedures. This resulted in a loss of shutdown cooling flow to the reactor coolant system. Specifically, the licensee established procedure NOP-OP-1005, "Shutdown Defense in Depth," Revision 10 as the implementing procedure to manage risk during shutdown conditions. The licensee failed to implement the significant risk management actions prescribed in procedure NOP-OP-1005 for maintenance on protected equipment. This resulted in a blown fuse in the reactor protection system causing a loss of shutdown cooling flow to the reactor coolant system. The licensee replaced the fuse and restored shutdown cooling. This issue was entered into the corrective action program as CR 09-58110.

The finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a loss of reactor decay heat removal event while the reactor was shutdown. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site conditions, or the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Work on Wrong Relay Potential Impact on Shutdown Cooling

A finding of very low safety significance was self-revealed on April 28, 2009, for the failure to follow maintenance procedure PTI-N41-P0002, "Generator Switchgear Protective Relay Trip Test," when electricians performed maintenance on an incorrect relay associated with bus L11. The licensee posted bus L11 as a protected train and repaired the 1R22-Q103A and 86B circuitry. The licensee entered the issue into their corrective action program as CR-09-58187.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, had the 1R22-Q103A relay circuitry functioned as designed, a loss of decay heat removal event would have occurred. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(a), because the licensee did not use error prevention

techniques commensurate with the risk of the maintenance activity.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INEFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH THE MOTOR FEEDWATER PUMP IN 10 CFR 50.65(a)(1) STATUS

A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(1) was identified by the inspectors for the licensee's failure to take reasonable corrective action to avoid recurrence of unavailability of a component in accordance with the maintenance rule. The inspectors determined that the licensee failed to implement the corrective action identified by the expert review panel, after the motor feedwater pump (MFP) did not meet licensee established goals. Specifically, the licensee failed to continuously run a purifier on the MFP lube oil sump to ensure the MFP was capable of fulfilling its intended function. On August 2, 2008, the portable lube oil purifier failed and the licensee did not connect a readily available purifier until after water intrusion into the oil rendered the MFP unavailable on August 7, 2008, and the plant entered YELLOW probabilistic safety assessment (PSA) risk. The licensee entered this issue into their corrective action program, attached the available lube oil purifier to restore the MFP, and purchased an additional lube oil purifier to ensure the plant would continue to implement the program's corrective action to avoid further MFP unavailability.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during plant operations. Specifically, the failure to implement a corrective action challenged the availability of a risk-significant component with a known degraded equipment problem and placed the plant in unplanned YELLOW PSA risk. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c) because the organization failed to properly prioritize the purification system repair. The inspectors determined that the finding was of very low safety significance following an SDP review.

Inspection Report# : [2009002](#) (pdf)

G

Significance: Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE INSPECTIONS ON THE RPV HEAD STRONGBACK LIFTING DEVICE MAJOR LOAD-CARRYING WELDS AND CRITICAL AREAS

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." The inspectors determined that the licensee failed to perform required nondestructive testing on the reactor pressure vessel (RPV) head strongback. Specifically, on February 25, 2009, the licensee failed to conduct a complete nondestructive examination (NDE) of a structural weld associated with the strongback lifting device. As part of their corrective actions, the licensee entered the issue into its corrective action program and performed a functionality assessment of the RPV head strongback, prior to lifting the RPV head, to assure that the strongback could perform its design function.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the purpose of the NDE testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of an RPV head strongback structural component failure, and hence, to assure safe load handling of heavy loads over the reactor core or over safety-related systems. The inspectors determined that the finding was of very low safety significance following a qualitative SDP review. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution per IMC 0305 P.1(c), because the licensee failed to thoroughly evaluate corrective actions to ensure they appropriately addressed the identified issue.

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

LOSS OF SERVICE AIRE TO MAIN STEAM LINE PLUGS

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on March 7, 2009, when main steam line plug seal pressure began to drop unexpectedly while the reactor cavity was flooded for refueling operations. Operators failed to conduct an adequate shift turnover regarding the configuration of service air isolation valves to containment affecting the main steam line plugs and subsequently isolated the air supply to the plug seals. As part of their immediate corrective actions, licensee personnel restored air to the main steam line plug seals and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of configuration control and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, loss of air pressure to main steam line seals increased the likelihood of a loss of reactor water inventory event during refueling operations. The finding was determined to be of very low safety significance following a Phase II SDP review. This finding has a cross-cutting aspect in the area of Human Performance, work control, per IMC 0305 H.3(b) because the licensee did not appropriately coordinate work activities associated with service air system testing.

G

Significance: Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MAINTENANCE ON HPCS SYSTEM RESULTED IN EMERGENCY OPERATING PROCEDURE ENTRY

A finding of very low safety significance and associated NCV of Technical Specification Section 5.4.1 was self-revealed on February 3, 2009, when the control room received an unexpected high pressure core spray (HPCS) pump room sump level high alarm and entered Emergency Operating Procedure (EOP) – 3, "Secondary Containment Control." The licensee did not properly control a maintenance activity on the HPCS system resulting in unexpected water spray in the HPCS pump room. As part of their immediate corrective actions, licensee personnel recovered from the drain down of the system and entered the issue into their corrective action program.

This finding was considered more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The event challenged shutdown operations as operators entered the EOP and responded to reports of significant water spray entering the pump room. The finding was determined, through an SDP analysis, to be of very low safety significance as no mitigation equipment or functions were affected. The primary cause of this finding was related to the cross-cutting aspect in the area of Human Performance per IMC 0305 H.3(a) because the organization failed to appropriately plan work activities that impact plant structures and systems, and failed to ensure appropriate contingencies were in place to perform a maintenance activity.

Mitigating Systems

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEUQATE POST-MAINTENANCE TEST FOLLOWING INSTALLATION OF NEW EMERGENCY DIESEL GENERATOR CARBON DIOXIDE SYSTEM CONTROL PANELS

A finding of very low safety significance (Green) and associated non-cited violation of license condition 2.C.(6), Fire Protection, was self-revealed for the licensee's failure implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR). Specifically, the licensee failed to ensure that, "...the main floor [of the Diesel Generator Building] is protected by a total flooding carbon dioxide system for fire suppression." The licensee had installed a permanent modification to the carbon dioxide system for the diesel generator room, but had chosen not to conduct complete post modification testing. The failure to conduct a complete test resulted in a wiring error to go undetected. Testing after the system was placed in service identified that the system did not function as designed. Troubleshooting identified that Division 2 and 3 emergency diesel generators (EDG) pneumatic electric relays in the new control panel were cross-wired to Division 3 and 2 EDG fan relays, respectively, in the control box. As part of their corrective actions, the licensee re-labeled the wires correctly in the CO₂ panels and landed them on their appropriate terminals. The licensee entered this issue into their corrective action program as CR 09 60866. The licensee's immediate corrective actions included placing the system in lockout and notifying all fire team personnel of the manual actions required to initiate CO₂ flow into the emergency diesel generator rooms.

The finding was determined to be more than minor because, if left uncorrected, the inability of the EDG automatic fire suppression system to perform its function would become a more significant safety concern. Specifically, a fire in the Division 2 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 3 EDG inoperable. Similarly, a fire in the Division 3 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 2 EDG inoperable. The inspectors concluded this finding was associated with the Mitigating Systems cornerstone. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined that the finding degraded the fire protection defense in depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, Significance Determination Process, the performance issue was determined to be in the fixed fire protection systems category based on the fixed fire suppression systems being degraded. This finding did not screen as very low safety significance (Green) in the Phase 1 analysis and a Phase 2 analysis under IMC 0609 Appendix F was required.

A regional senior reactor analyst evaluated this finding and assumed the fire frequency to be 3.0E-2 for the EDG rooms based on the licensee's IPEEE (Individual Plant Examination – External Events). Considering the fire frequency and remaining mitigating capability in the event of a plant transient, the senior reactor analyst determined that the risk associated with this finding was less than 1.0E-06. Therefore, this finding was determined to be best characterized as very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, decision making, per IMC 0609 H.1(b), because the licensee's decisions did not demonstrate that nuclear safety was an overriding priority. Specifically, the licensee chose to minimize system unavailability time over performing a full and complete post-maintenance test on a newly installed EDG CO₂ control system, a test that would have identified the wiring error.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MMAINTENANCE ERRORS CAUSE LOSS OF DIVISION 1 ECCS ELECTRICAL POWER

A finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1 was self-revealed when the licensee failed to follow Nuclear Operating Procedure (NOP)-WM-3001; Work Management PM Processes. Specifically, step 4.5.5 of NOP-WM-3001 states, "If a General Nuclear Preventative Maintenance (GNPM) Order cannot be completed as planned due to ... replacement of a failed or degraded component, then the MWC Supervisor shall take appropriate actions in accordance with the flow diagram in Attachment 6 ..." During the performance of work order 200297036, for safety related 480-V breaker EF1A03, the supervisor directed a 4-point switch be replaced as part of the work order; however, no evaluation of the change in scope was completed and a CR was not written as required by Attachment 6 of NOP-WM-3001. The failure to evaluate the replacement lead to the loss of power to a number of safety related components. The licensee entered this item into their corrective action program as CR 09-63681. The licensee's immediate action included entry into the appropriate technical specifications, restoration of the lost electrical power bus and restoration of emergency core

cooling systems which were made inoperable as a result of the power loss.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of human performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequate work planning caused a loss of electrical power to bus EF-1-A, the safety-related 480 V power supply to Division 1 components placing the plant in an orange probabilistic safety analysis risk condition. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 2, the inspectors determined that core decay heat removal was degraded. Using Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones," the inspectors assessed the finding as having very low safety significance (Green) because no loss of safety system function occurred and no loss of function of a single train occurred for greater than its TS-allowed outage time. This finding has a cross-cutting aspect in the area of human performance, work control per IMC 0609 H.3(b) because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, licensee personnel failed to plan and coordinate the replacement of an auxiliary switch in breaker EF1A03 thereby not incorporating the impact of the changes to the work scope or activity on the plant and human performance.

Inspection Report# : [2009004](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Prevent Contact of Energized Components Renders RCIC System Inoperable

A finding of very low safety significance (Green) and associated NCV of Technical Specification 5.4.1 was self-revealed when technicians failed to implement actions to prevent contact of energized electrical components during maintenance. Specifically, the reactor core isolation cooling (RCIC) Division 2 logic tripped while attempting to lift leads and a test lug. The technicians suspended their surveillance procedure and operators restored the RCIC system in accordance with licensee procedures. Operators also verified high pressure core spray (HPCS) was operable. The licensee visually inspected the RCIC system and found no apparent damage. The licensee conducted additional training on the use of error prevention tools and entered the issue into the corrective action program as CR 09-59356. The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the short circuit resulted in the RCIC system being inoperable. The finding was determined to have very low safety significance because it did not represent a loss of system safety function, a loss of safety function of a non-TS train designated as risk significant for greater than 24 hours, an actual loss of safety function of a single train for greater than its TS- allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of human performance per IMC 0305 H.4 (a) because the technician failed to use error prevention techniques, such as self-checking, that are commensurate with the risk of the assigned task. Specifically not using 'STAR' (Stop, Think, Act, Review) during an activity that could render the RCIC system inoperable.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RHR System Over-Pressurization Due to Failure to Implement Corrective Actions for a Condition Adverse to Quality

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed for the failure to implement corrective actions to ensure residual heat removal (RHR) check valve 1E12F0050A seated during plant pressurizations. Specifically, the licensee failed to establish and maintain corrective actions for check valve 1E12F0050A inability to seat under low differential pressure conditions, resulting in the over-pressurization of a section of RHR system piping. As part of the licensee's corrective action, the

operators depressurized the RHR system below operating pressure and were revising procedures to ensure the check valve 1E12F0050A seats fully during system pressurization. This issue was entered into the licensee corrective action program by CR 09-58808 and CR 09-58995 and an appropriate permanent corrective action was being evaluated. The inspectors determined that the finding was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, removal of the RHR venting evolution from station procedures resulted in an unexpected over-pressurization which could have resulted in system damage. Using IMC 0609, Appendix G, "Shutdown Operations Significant Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of problem identification and resolution per IMC 0305 P.1(c), because the organization failed to thoroughly evaluate the impact of modifying a corrective action. Specifically, the licensee failed to thoroughly evaluate the consequences of removing the venting section of a procedure that was a corrective action for the check valve's inability to seat under low differential pressure conditions.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Procedures for Post Fire Operation of Control Room HVAC Fans and Control of Remote Shutdown Room Toolbox Inventory.

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1a for failure to maintain procedures for post-fire operation of control room heating, ventilation, and air conditioning (HVAC) Train A fans and for control of the Division 1 remote shutdown room toolbox inventory. Specifically, Procedure ARI H13 P904 0001 B6, "Control Room HVAC Train A Tripped," stated that if a fire has occurred and the Train A fans have tripped, then restart the Train A fans in emergency recirculation mode. The correct action was to restore Train B fans in emergency recirculation mode. In addition, Procedure IOI 11 "Control Room Isolation," Attachment 20, contained a list of equipment operators were to obtain from the toolbox, located by the alternate remote shutdown panel, following a control room fire. The list included nine items; one of the items consisting of three FRS R 4 Amp fuses was missing. The procedure should have been revised to remove the requirement to obtain the fuses. The licensee entered this finding into their corrective action program as CR 09 60317 and CR 09 60373.

The finding was determined to be more than minor because the finding was associated with the mitigating system cornerstone attribute of procedure quality and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to maintain the procedures could have complicated plant safe shutdown in the event of a fire. The inspectors determined that the finding was of very low safety-significance since the procedure deficiencies did not substantially impact performance in the event of a fire.

Inspection Report# : [2009007](#) (pdf)

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Assure That Systems Structures and Components Necessary to Achieve And Maintain Hot Shutdown Conditions Were Free of Fire Damage Without Repair Actions.

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.2, involving the licensee's failure to ensure, in the event of a fire, that one redundant train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage. Specifically, the licensee failed to ensure, in the event of a control room fire, certain Systems, Structures,

and Components (SSCs) necessary to achieve and maintain hot shutdown conditions (e.g., MOVs 1P45 F0014A and 1P45 F0068A and emergency service water system (ESW) equipment) were free of fire damage. The licensee entered this finding into their corrective action program for resolution as CR 09 60977. The control room area, which is

susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase 2 screening determined this finding was of very low safety-significance because no potentially challenging fire scenarios were developed.

Inspection Report# : [2009007](#) (pdf)

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Required Electrical Isolation for Post Fire Safe Shutdown Electrical Circuits

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.3, for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for the Division 1 diesel generator building ventilation fan 1M43 C001A did not have the required physical isolation to isolate control room fire-induced electrical faults when transferring control to the remote shutdown station. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform a preliminary evaluation of the electrical circuitry and cables. The licensee entered this finding into their corrective action program as CR 09 60873. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined the finding degraded the fire protection defense-in-depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process [SDP]," the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a control room fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screened as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy. The cause of the finding related to the cross-cutting aspect of problem identification and resolution (Section 1R05.6b).

Inspection Report# : [2009007](#) (pdf)

Barrier Integrity

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RCS Temp Below Minimum Allowed by TS due to Inadequate Station Procedures

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when operators failed to maintain reactor coolant system (RCS) temperature greater than the Technical Specification minimum allowable temperature because Integrated Operations Instruction (IOI)-9, "Refueling," was inadequate. The licensee did not properly control an outage activity

in that they failed to ensure the water sprayed into the reactor pressure vessel met temperature requirements. As part of their immediate corrective actions, licensee personnel stopped the activity and restored the RCS system above the TS 3.4.11 temperature requirements of 70 °F. The licensee entered this issue into the corrective action program as CR 09-55397.

This finding was determined to be more than minor because it was associated with the procedure quality attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, failure to maintain RCS temperature greater than the minimum allowed by TS affected the functionality of this barrier. Using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a) because the organization failed to appropriately plan work and coordinate work activities consistent with nuclear safety. Specifically, job site conditions, including environmental conditions which may impact plant structures, systems, and components; were not considered to ensure water sprayed into the RCS would maintain temperature above 70 °F.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Follow Industrial Safety Manual Results in Damage to Fuel Handling building Roll-up Door

A finding of very low safety significance was self-revealed when contract personnel failed to follow the FENOC Industrial Safety Manual to control vehicle movement inside the fuel handling building (FHB). Specifically, a Sea-land truck backed into the FHB roll-up door, dislodging the door in the open position. The licensee suspended fuel movements and implemented compensatory measures for containment integrity. The licensee repaired the roll-up door and conducted training with contract and oversight personnel, and entered the issue into the corrective action program as CR 09 56062.

The finding was determined to be more than minor because the finding was associated with Barrier Integrity cornerstone attribute of SSC and barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the finding resulted in an event that challenged FHB integrity, which is a functional barrier to fission product release. Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," does not address the potential risk significance of FHB operations. Regional management determined that the finding was of very low safety significance because there was no fuel handling accident during this period. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee failed to ensure adequate supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2009003](#) (pdf)

G

Significance: Jan 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO PROCEDURES FOR SCAFFOLD AFFECTING CONTAINMENT SYSTEMS

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was identified by the team for the failure to erect scaffolding in accordance with procedural requirements. Specifically, scaffold constructed in the Intermediate Building had seismic bracing attached to a safety related cable tray support and was connected to a duct support without an approved engineering document as specified in procedural requirements.

Although the licensee was able to demonstrate that the cable tray support and duct support were operable, the finding was determined to be more than minor because there was reasonable doubt that the licensee routinely performed engineering evaluations on similar scaffold issues. The finding was determined to be of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment. This finding had a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the licensee failed to provide effective oversight of the erected seismic scaffold to ensure compliance with procedural requirements [H.4(c)].

Inspection Report# : [2009006](#) ([pdf](#))

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

UNPOSTED HIGH RADIATION AREA AT THE TIP MACHINES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7.1 for the failure to conspicuously post a high radiation area on the 599' elevation of the containment building. Corrective actions included instituting high radiation area controls when the traverse in-core probe system is operated. The licensee entered the issue into its corrective action program as Condition Reports 09-59344 and 09-67987.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for as-low-as-is-reasonably-achievable (ALARA) planning, in that, not conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The primary cause of this finding was related to the cross-cutting area of human performance in work practices, per IMC 0305 H.4.a., in that, personnel work practices and human performance error reduction techniques were not used commensurate with the risk of the assigned task.

Inspection Report# : [2009005](#) ([pdf](#))

G

Significance: Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

EXCESS DOSE INCURRED FOR THE ALTERNATE DECAY HEAT REMOVAL PROJECT

The inspectors identified a finding of very low safety significance for inadequate job planning and ineffective work controls which adversely impacted the licensee's ability to minimize dose for the alternate decay heat removal (ADHR) project during Refuel Outage 12. Specifically, controls were not effectively implemented to reduce ambient radiation levels, and minimize in-field work hours for craft personnel. The issue resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with modifications to the ADHR. Corrective actions were implemented to address the organization and programmatic deficiencies in managing the installation of major plant modifications.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and

process for ALARA planning, in that, ineffective ALARA planning and work control deficiencies contributed to an actual increase in worker doses in excess of five person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3 year rolling average dose for the Perry Plant was less than the SDP threshold of 240-person-rem for boiling water reactors at the time the performance deficiency occurred. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety-significance. The finding was determined to be associated with a cross-cutting aspect in the area of human performance in work controls, per IMC 0305 H.3.a., in that, the licensee did not appropriately plan work activities by incorporating radiological safety.

Inspection Report# : [2009005](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Appropriate Water Sheilding Between Irradiated Fuel and in-vessel 360 degree platform

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.4.1.a for the failure to establish, implement, and maintain adequate written procedures regarding the radiation safety program. The licensee failed to implement procedurally required compensatory measures associated with moving irradiated fuel assemblies. Specifically, workers on the 360 platform were within close proximity of the refueling mast while fuel moves were in progress. As corrective actions, the licensee posted information signs to control access to specific areas of the 360 platform and planned to incorporate more rigorous radiological controls into the governing procedure. The licensee entered the issue into its corrective action program as CR 09-54697.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not implementing adequate radiological control may potentially result in unplanned exposures to radioactive material. The finding was determined to be of very low safety significance because it was not an as-low-as-is-reasonably-achievable (ALARA) planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the decision making component of the human performance area in accordance with IMC 0305 H.1(b), because the licensee did not adequately use conservative assumptions in decision making.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Barricade and Conspicuously Post a High Radiation Area

The inspectors reviewed a self-revealing finding of very low safety significance and an associated NCV of Technical Specification 5.4.7.a for the failure to barricade and conspicuously post a high radiation area on the 599' elevation of the auxiliary building. As corrective actions, the licensee barricaded and conspicuously posted the affected area as a high radiation area and performed gravity flushes of piping with clean water to reduce the ambient dose rates. The licensee entered the issue into its corrective action program as CR 09-55453.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the work control component of the human performance area in accordance with IMC 0305 .H.3(b), because the licensee did not adequately coordinate work activities.

Inspection Report# : [2009003](#) ([pdf](#))

G**Significance:** Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEQUATE EVALUATION TO DETERMINE THE USE OF RESPIRATORY PROTECTION EQUIPMENT AND/OR ENGINEERING CONTROLS

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was identified for the failure to perform an adequate survey (evaluation) to determine whether the use of respiratory protection equipment and/or engineering controls were necessary to maintain the total effective dose equivalent As-Low-As-Is-Reasonably-Achievable (ALARA). Specifically, a high efficiency particulate air vacuum cleaner that was used during a spent fuel pool clean-up campaign was opened without fully evaluating the potential hazards. As a result, two contracted decontamination technicians received an unplanned intake of radioactive materials. As immediate actions, the licensee assessed the internal dose to the workers and secured the area to minimize additional exposure. The licensee entered the issue into its corrective action program as CR 08-33692.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not performing adequate evaluations to determine the use of respiratory protection equipment and/or engineering controls for the work resulted in unplanned, additional dose to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the Human Performance area per IMC 0305 H.4(c), because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2009002 \(pdf\)](#)

Public Radiation Safety

G**Significance:** Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO DOCUMENT ALL APPLICABLE HAZARDS ON SHIPPING MANIFEST

A self-revealed finding of very low safety significance and an associated NCV of Title 10 CFR 71.5 was identified. Specifically, the licensee failed to comply with Title 49 CFR 172.203(c) and shipped a package of radioactive material with a transport manifest that did not document all applicable hazardous substances. The issue was entered in the licensee's corrective action program as CR 07-23098. The licensee's immediate corrective actions were to provide a corrected copy of the transport manifest to the waste processor and to initiate an apparent cause investigation to identify corrective actions to avoid recurrence.

The finding is more than minor because it was associated with the Public Radiation Safety cornerstone attribute of Program and Process (transportation program) and affected the cornerstone objective, in that, providing incorrect information, as part of hazard communication, could impact the actions of response personnel. The finding was determined to be of very low safety significance because using the Public Radiation Safety SDP, the inspector determined that: (1) radiation limits were not exceeded; (2) there was no breach of a package during transit; (3) it did not involve a certificate of compliance issue; (4) it was not a low level burial ground nonconformance; and (5) it did not involve a failure to make notifications or provide emergency information. Because the finding was not indicative of current performance, a cross-cutting aspect was not identified.

Inspection Report# : [2009002 \(pdf\)](#)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 30, 2009

Identified By: NRC

Item Type: FIN Finding

PI&R Report Summary

Based on the sample selected for review, the team concluded that implementation of the corrective action program (CAP) was adequate. The licensee had a low threshold for identifying problems and entering them in the CAP. Items entered into the CAP were screened and prioritized in a timely manner using established criteria; were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. The team noted that the licensee reviewed operating experience for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of licensee self-assessments and interviews conducted during the inspection, workers at the site expressed freedom to raise safety concerns. The team observed that improvements have been made in the licensee's identification and assessment of human performance issues and in root and full apparent cause analyses quality. While noting some improvement in the identification of negative trends, the team also noted that in at least one case the licensee had not identified a negative trend in an area previously highlighted by an NRC finding and associated non-cited violation.

Inspection Report# : [2009006 \(pdf\)](#)

Last modified : March 01, 2010

Perry 1

1Q/2010 Plant Inspection Findings

Initiating Events

G

Significance: Dec 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO ADHERE TO MAINTENANCE INSTRUCTIONS RESULTED IN LOSS OF RECIRCULATION PUMP 'A'

A finding of very low significance was self-revealed on October 15, 2009, when one of two reactor recirculation pumps failed to transfer to slow speed while operators were attempting to downshift both pumps. The finding involved the licensee's failure to adhere to maintenance instructions when personnel incorrectly assembled a relay contactor during maintenance activities on an 'A' recirculation pump low frequency motor generator relay panel. The improperly assembled contactor led to the failure of the 2A breaker to close and re-energize recirculation pump 'A' in slow speed, which caused the loss of the pump and a subsequent unplanned drop in power. No violation of regulatory requirements occurred, and the issue was entered into the licensee's corrective action program.

The failure to adhere to the maintenance instructions resulted in the loss of recirculation pump 'A,' which caused an actual upset in plant stability, and directly affected the objective for the Initiating Events cornerstone. The finding was more than minor because the reactor recirculation pump failure to downshift affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. The primary cause of this finding was related to the cross-cutting area of human performance, per IMC 0305 H.4.a., work practices, human error prevention techniques, because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2009005 \(pdf\)](#)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

UNEXPECTED HALF SCRAM DUE TO FAULTY TROUBLESHOOTING PLAN

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an appropriate troubleshooting plan for repairing Average Power Range Monitor (APRM) 'A.' Specifically, the troubleshooting plan for inoperable APRM 'A' did not provide proper guidance to the technicians resulting in an unexpected half scram on the reactor protection system and subsequent required operator actions. The licensee entered the error into their corrective action program as CR 09-63991. As part of its corrective actions, the licensee planned to place placards in the APRM cabinets warning of the special instructions to remove and replace the cards.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to change reactor power to maintain reactor power at a stable value. Therefore, the performance deficiency impacted the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not

appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site condition, or the need for planned contingencies, compensatory actions and abort criteria. Specifically, licensee personnel did not adequately research the impact of a circuit card's removal and reinsertion into the control circuitry for APRM 'A,' on other related systems contributing directly to an unplanned power transient on the reactor.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

MOISTURE SEPARATOR REHEATER LEVEL SWITCH MAINTENACE CAUSED UNIT TRIP

A finding of very low safety significance was self-revealed on June 21, 2009, for the failure to adequately implement the requirements of Nuclear Operating Procedure (NOP)-WM-4300, Order Execute Process. Specifically, a supervisor authorized work order steps to be performed out of sequence on level switches for the moisture separator reheaters (MSR). The failure to perform steps in order led to some steps being missed and ultimately to a main turbine trip and associated reactor scram. The licensee entered this item into their corrective action program as CR 09-60855. The licensee's immediate actions included response to the reactor scram and formation of a troubleshooting team to conduct a root cause investigation of the failure of the MSR level indicators.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability. Specifically, inadequate adjustment and calibration of the level switches following replacement resulted in a main turbine trip and reactor scram from full power. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding resulted in a reactor trip, it did not contribute to the likelihood that mitigation equipment would not be available, therefore, the inspectors determined the finding to be of very low safety significance. This finding has a cross cutting aspect in the area human performance, resources per IMC 0305 H.2(c), because the licensee did not ensure that procedures were adequate to assure nuclear safety. Specifically, the generic instrumentation and control instruction and the work order for conducting maintenance on the moisture separator reheater level switches did not contain critical vendor information or guidance to reflect the significance of taking as found data to support calibration of the replacement switches.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inability to Operate RHR common suction Line Valve

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the failure to implement the requirements of licensee (normal operating procedure) NOP OP-1014, "Plant Status Control," Revision 00. Specifically, operations personnel used a mechanical advantage device to operate valve 1E12F0010 without evaluating the affect on the valve. Damage to residual heat removal (RHR) valve 1E12F0010 prevented the plant from entering shutdown cooling. It was determined that the valve operator stem sheared due to excessive torque used to operate the valve. As part of their immediate corrective actions, licensee personnel repaired the valve stem operator to restore shutdown cooling and entered the issue into their corrective action program.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the failure of the RHR shutdown cooling common suction isolation valve caused both trains of shutdown cooling to be unavailable during shutdown operations. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 7, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative

assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee did not ensure adequate supervisory and management oversight of work activities to ensure nuclear safety. Specifically, supervisors were aware of the use of mechanical advantage devices on the RHR shutdown cooling common suction manual isolation valve and did not ensure an appropriate evaluation was conducted.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Near Loss of Shutdown Cooling due to Maintenance Activity

. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when technicians performed maintenance on protected equipment without implementing risk management requirements specified in station procedures. This resulted in a loss of shutdown cooling flow to the reactor coolant system. Specifically, the licensee established procedure NOP-OP-1005, "Shutdown Defense in Depth," Revision 10 as the implementing procedure to manage risk during shutdown conditions. The licensee failed to implement the significant risk management actions prescribed in procedure NOP-OP-1005 for maintenance on protected equipment. This resulted in a blown fuse in the reactor protection system causing a loss of shutdown cooling flow to the reactor coolant system. The licensee replaced the fuse and restored shutdown cooling. This issue was entered into the corrective action program as CR 09-58110.

The finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the finding resulted in a loss of reactor decay heat removal event while the reactor was shutdown. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site conditions, or the need for planned contingencies, compensatory actions, and abort criteria.

Inspection Report# : [2010002](#) ([pdf](#))

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Work on Wrong Relay Potential Impact on Shutdown Cooling

A finding of very low safety significance was self-revealed on April 28, 2009, for the failure to follow maintenance procedure PTI-N41-P0002, "Generator Switchgear Protective Relay Trip Test," when electricians performed maintenance on an incorrect relay associated with bus L11. The licensee posted bus L11 as a protected train and repaired the 1R22-Q103A and 86B circuitry. The licensee entered the issue into their corrective action program as CR-09-58187.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, had the 1R22-Q103A relay circuitry functioned as designed, a loss of decay heat removal event would have occurred. Using IMC 0609, Appendix G, "Shutdown Operation Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of

human performance, work practices, per IMC 0305 H.4(a), because the licensee did not use error prevention techniques commensurate with the risk of the maintenance activity.

Inspection Report# : [2009003](#) ([pdf](#))

Mitigating Systems

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING POST-MAINTENANCE ACTIVITIES

. A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition when the Unit 1 Division 1 Emergency Diesel Generator (EDG) was out of service for maintenance. Specifically, there was a 5 hour period of time that the licensee restored plant risk to GREEN status while the EDG remained unavailable and plant risk was actually YELLOW. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was $< 1E-6$. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform a complete post-maintenance test which would have verified the EDG system was fully functional and available to perform its mission at the end of the maintenance period.

Inspection Report# : [2010002](#) ([pdf](#))

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAKE AN ACCURATE IMMEDIATE OPERABILITY DETERMINATION

A finding of very low safety significance was identified by the inspectors for the licensee's failure to make an accurate immediate operability determination (IOD) based on the actual plant conditions and the available information to provide reasonable assurance of operability. Specifically, on February 15, 2010, through wall leakage was identified coming from a welded elbow connection of an instrument line associated with the 'B' Emergency Closed Cooling (ECC) system supply to the 'B' control complex chiller heat exchanger. This instrument line is an American Society of Mechanical Engineers (ASME) Section III, Class 3 piping system, and the licensee's IOD declared the 'B' ECC system operable without the degradation mechanism being discernable from visual examination (such as external corrosion or wear) or having substantial operating experience (site specific) with the identified degradation mechanism in the affected system. No violation of regulatory requirements occurred, and the issue was entered into the licensee's CAP.

The performance deficiency was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Equipment Performance-Availability, Reliability," and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance because a loss of system safety function, or the actual loss of safety function of a single train for greater than its TS-allowed outage time did not occur, and the finding does not screen as potentially risk-significant due to a seismic, flooding, or severe

weather initiating event. This finding had a safety culture cross-cutting aspect in the area of Problem Identification and Resolution, related to the Operating Experience component for not implementing and institutionalizing operating experience through changes to station processes, procedures, equipment, and training programs per IMC 0310 (P.2 (b)). Specifically, the requirement for the degradation mechanism of through wall leakage on ASME Section III, Class 2 and 3 piping, to be readily apparent from visual examination in order to support an operable IOD, was not completely understood by operations personnel. This finding did not involve a violation of regulatory requirements.

Inspection Report# : [2010002](#) ([pdf](#))

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEUQATE POST-MAINTENANCE TEST FOLLOWING INSTALLATION OF NEW EMERGENCY DIESEL GENERATOR CARBON DIOXIDE SYSTEM CONTROL PANELS

A finding of very low safety significance (Green) and associated non-cited violation of license condition 2.C.(6), Fire Protection, was self-revealed for the licensee's failure implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR). Specifically, the licensee failed to ensure that, "...the main floor [of the Diesel Generator Building] is protected by a total flooding carbon dioxide system for fire suppression." The licensee had installed a permanent modification to the carbon dioxide system for the diesel generator room, but had chosen not to conduct complete post modification testing. The failure to conduct a complete test resulted in a wiring error to go undetected. Testing after the system was placed in service identified that the system did not function as designed. Troubleshooting identified that Division 2 and 3 emergency diesel generators (EDG) pneumatic electric relays in the new control panel were cross-wired to Division 3 and 2 EDG fan relays, respectively, in the control box. As part of their corrective actions, the licensee re-labeled the wires correctly in the CO₂ panels and landed them on their appropriate terminals. The licensee entered this issue into their corrective action program as CR 09 60866. The licensee's immediate corrective actions included placing the system in lockout and notifying all fire team personnel of the manual actions required to initiate CO₂ flow into the emergency diesel generator rooms.

The finding was determined to be more than minor because, if left uncorrected, the inability of the EDG automatic fire suppression system to perform its function would become a more significant safety concern. Specifically, a fire in the Division 2 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 3 EDG inoperable. Similarly, a fire in the Division 3 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 2 EDG inoperable. The inspectors concluded this finding was associated with the Mitigating Systems cornerstone. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined that the finding degraded the fire protection defense in depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, Significance Determination Process, the performance issue was determined to be in the fixed fire protection systems category based on the fixed fire suppression systems being degraded. This finding did not screen as very low safety significance (Green) in the Phase 1 analysis and a Phase 2 analysis under IMC 0609 Appendix F was required.

A regional senior reactor analyst evaluated this finding and assumed the fire frequency to be 3.0E-2 for the EDG rooms based on the licensee's IPEEE (Individual Plant Examination – External Events). Considering the fire frequency and remaining mitigating capability in the event of a plant transient, the senior reactor analyst determined that the risk associated with this finding was less than 1.0E-06. Therefore, this finding was determined to be best characterized as very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, decision making, per IMC 0609 H.1(b), because the licensee's decisions did not demonstrate that nuclear safety was an overriding priority. Specifically, the licensee chose to minimize system unavailability time over performing a full and complete post-maintenance test on a newly installed EDG CO₂ control system, a test that would have identified the wiring error.

Inspection Report# : [2009004](#) ([pdf](#))

G**Significance:** Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MMAINTENANCE ERRORS CAUSE LOSS OF DIVISION 1 ECCS ELECTRICAL POWER

A finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1 was self-revealed when the licensee failed to follow Nuclear Operating Procedure (NOP)-WM-3001; Work Management PM Processes. Specifically, step 4.5.5 of NOP-WM-3001 states, "If a General Nuclear Preventative Maintenance (GNPM) Order cannot be completed as planned due to ... replacement of a failed or degraded component, then the MWC Supervisor shall take appropriate actions in accordance with the flow diagram in Attachment 6 ..." During the performance of work order 200297036, for safety related 480-V breaker EF1A03, the supervisor directed a 4-point switch be replaced as part of the work order; however, no evaluation of the change in scope was completed and a CR was not written as required by Attachment 6 of NOP-WM-3001. The failure to evaluate the replacement lead to the loss of power to a number of safety related components. The licensee entered this item into their corrective action program as CR 09-63681. The licensee's immediate action included entry into the appropriate technical specifications, restoration of the lost electrical power bus and restoration of emergency core cooling systems which were made inoperable as a result of the power loss.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of human performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequate work planning caused a loss of electrical power to bus EF-1-A, the safety-related 480 V power supply to Division 1 components placing the plant in an orange probabilistic safety analysis risk condition. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 2, the inspectors determined that core decay heat removal was degraded. Using Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones," the inspectors assessed the finding as having very low safety significance (Green) because no loss of safety system function occurred and no loss of function of a single train occurred for greater than its TS-allowed outage time. This finding has a cross-cutting aspect in the area of human performance, work control per IMC 0609 H.3(b) because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, licensee personnel failed to plan and coordinate the replacement of an auxiliary switch in breaker EF1A03 thereby not incorporating the impact of the changes to the work scope or activity on the plant and human performance.

Inspection Report# : [2009004 \(pdf\)](#)**G****Significance:** Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Prevent Contact of Energized Components Renders RCIC System Inoperable

A finding of very low safety significance (Green) and associated NCV of Technical Specification 5.4.1 was self-revealed when technicians failed to implement actions to prevent contact of energized electrical components during maintenance. Specifically, the reactor core isolation cooling (RCIC) Division 2 logic tripped while attempting to lift leads and a test lug. The technicians suspended their surveillance procedure and operators restored the RCIC system in accordance with licensee procedures. Operators also verified high pressure core spray (HPCS) was operable. The licensee visually inspected the RCIC system and found no apparent damage. The licensee conducted additional training on the use of error prevention tools and entered the issue into the corrective action program as CR 09-59356. The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the short circuit resulted in the RCIC system being inoperable. The finding was determined to have very low safety significance because it did not represent a loss of system safety function, a loss of safety function of a non-TS train designated as risk significant for greater than 24 hours, an actual loss of safety function of a single train for greater than its TS- allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of human performance per IMC 0305 H.4 (a) because the technician failed to use error prevention techniques, such as self-checking, that are commensurate with

the risk of the assigned task. Specifically not using 'STAR' (Stop, Think, Act, Review) during an activity that could render the RCIC system inoperable.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RHR System Over-Pressurization Due to Failure to Implement Corrective Actions for a Condition Adverse to Quality

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was self-revealed for the failure to implement corrective actions to ensure residual heat removal (RHR) check valve 1E12F0050A seated during plant pressurizations. Specifically, the licensee failed to establish and maintain corrective actions for check valve 1E12F0050A inability to seat under low differential pressure conditions, resulting in the over-pressurization of a section of RHR system piping. As part of the licensee's corrective action, the operators depressurized the RHR system below operating pressure and were revising procedures to ensure the check valve 1E12F0050A seats fully during system pressurization. This issue was entered into the licensee corrective action program by CR 09-58808 and CR 09-58995 and an appropriate permanent corrective action was being evaluated. The inspectors determined that the finding was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, removal of the RHR venting evolution from station procedures resulted in an unexpected over-pressurization which could have resulted in system damage. Using IMC 0609, Appendix G, "Shutdown Operations Significant Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of problem identification and resolution per IMC 0305 P.1(c), because the organization failed to thoroughly evaluate the impact of modifying a corrective action. Specifically, the licensee failed to thoroughly evaluate the consequences of removing the venting section of a procedure that was a corrective action for the check valve's inability to seat under low differential pressure conditions.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Procedures for Post Fire Operation of Control Room HVAC Fans and Control of Remote Shutdown Room Toolbox Inventory.

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1a for failure to maintain procedures for post-fire operation of control room heating, ventilation, and air conditioning (HVAC) Train A fans and for control of the Division 1 remote shutdown room toolbox inventory. Specifically, Procedure ARI H13 P904 0001 B6, "Control Room HVAC Train A Tripped," stated that if a fire has occurred and the Train A fans have tripped, then restart the Train A fans in emergency recirculation mode. The correct action was to restore Train B fans in emergency recirculation mode. In addition, Procedure IOI 11 "Control Room Isolation," Attachment 20, contained a list of equipment operators were to obtain from the toolbox, located by the alternate remote shutdown panel, following a control room fire. The list included nine items; one of the items consisting of three FRS R 4 Amp fuses was missing. The procedure should have been revised to remove the requirement to obtain the fuses. The licensee entered this finding into their corrective action program as CR 09 60317 and CR 09 60373.

The finding was determined to be more than minor because the finding was associated with the mitigating system cornerstone attribute of procedure quality and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to maintain the procedures could have complicated plant safe shutdown in the event of a fire. The inspectors determined that the finding was of very low safety-significance since the procedure deficiencies did not substantially impact performance in the event of a fire.

G**Significance:** Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Assure That Systems Structures and Components Necessary to Achieve And Maintain Hot Shutdown Conditions Were Free of Fire Damage Without Repair Actions.

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.2, involving the licensee's failure to ensure, in the event of a fire, that one redundant train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage. Specifically, the licensee failed to ensure, in the event of a control room fire, certain Systems, Structures, and Components (SSCs) necessary to achieve and maintain hot shutdown conditions (e.g., MOVs 1P45 F0014A and 1P45 F0068A and emergency service water system (ESW) equipment) were free of fire damage. The licensee entered this finding into their corrective action program for resolution as CR 09 60977. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase 2 screening determined this finding was of very low safety-significance because no potentially challenging fire scenarios were developed.

Inspection Report# : [2009007](#) (pdf)**G****Significance:** Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Required Electrical Isolation for Post Fire Safe Shutdown Electrical Circuits

The inspectors identified a finding of very low safety significance and associated NCV of the Perry Nuclear Power Plant, Unit 1, Facility Operating License Condition 2.C.(6) and 10 CFR Part 50, Appendix R, Section III.G.3, for failure to provide the required electrical isolation in the design of the post-fire safe shutdown control logic circuitry. Specifically, the control logic for the Division 1 diesel generator building ventilation fan 1M43 C001A did not have the required physical isolation to isolate control room fire-induced electrical faults when transferring control to the remote shutdown station. This is required to ensure that postulated fire-induced electrical faults would not result in the loss of post-fire alternative safe shutdown equipment. The licensee's immediate corrective action was to perform a preliminary evaluation of the electrical circuitry and cables. The licensee entered this finding into their corrective action program as CR 09 60873. The control room area, which is susceptible to this condition, is continuously manned; therefore making a compensatory action of a fire watch unnecessary.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (Fire) and affected the cornerstone's objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined the finding degraded the fire protection defense-in-depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process [SDP]," the performance issue was determined to be in the post-fire safe shutdown category. The degradation rating was low based on FirstEnergy Nuclear Operating Company's (FENOC's) engineering evaluation that concluded that there were no fire induced electrical faults resulting from a control room fire that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire. Therefore, the finding screened as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a NCV consistent with Section VI.A of the Enforcement Policy. The cause of the finding related to the cross-cutting aspect of problem identification and resolution (Section 1R05.6b).

Barrier Integrity

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RCS Temp Below Minimum Allowed by TS due to Inadequate Station Procedures

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when operators failed to maintain reactor coolant system (RCS) temperature greater than the Technical Specification minimum allowable temperature because Integrated Operations Instruction (IOI)-9, "Refueling," was inadequate. The licensee did not properly control an outage activity in that they failed to ensure the water sprayed into the reactor pressure vessel met temperature requirements. As part of their immediate corrective actions, licensee personnel stopped the activity and restored the RCS system above the TS 3.4.11 temperature requirements of 70 °F. The licensee entered this issue into the corrective action program as CR 09-55397.

This finding was determined to be more than minor because it was associated with the procedure quality attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, failure to maintain RCS temperature greater than the minimum allowed by TS affected the functionality of this barrier. Using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," Checklist 8, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis because the plant had appropriately met the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control. The issue did not need a quantitative assessment and screened as having very low safety significance using Figure 1. This finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a) because the organization failed to appropriately plan work and coordinate work activities consistent with nuclear safety. Specifically, job site conditions, including environmental conditions which may impact plant structures, systems, and components; were not considered to ensure water sprayed into the RCS would maintain temperature above 70 °F.

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Follow Industrial Safety Manual Results in Damage to Fuel Handling building Roll-up Door

A finding of very low safety significance was self-revealed when contract personnel failed to follow the FENOC Industrial Safety Manual to control vehicle movement inside the fuel handling building (FHB). Specifically, a Sealand truck backed into the FHB roll-up door, dislodging the door in the open position. The licensee suspended fuel movements and implemented compensatory measures for containment integrity. The licensee repaired the roll-up door and conducted training with contract and oversight personnel, and entered the issue into the corrective action program as CR 09 56062.

The finding was determined to be more than minor because the finding was associated with Barrier Integrity cornerstone attribute of SSC and barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the finding resulted in an event that challenged FHB integrity, which is a functional barrier to fission product release. Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," does not address the potential risk significance of FHB operations. Regional management determined that the finding was of very low safety significance because there was no fuel handling accident during this period. This

finding has a cross-cutting aspect in the area of human performance, work practices, per IMC 0305 H.4(c) because the licensee failed to ensure adequate supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2009003](#) ([pdf](#))

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

UNPOSTED HIGH RADIATION AREA AT THE TIP MACHINES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7.1 for the failure to conspicuously post a high radiation area on the 599' elevation of the containment building. Corrective actions included instituting high radiation area controls when the traverse in-core probe system is operated. The licensee entered the issue into its corrective action program as Condition Reports 09-59344 and 09-67987.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for as-low-as-is-reasonably-achievable (ALARA) planning, in that, not conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The primary cause of this finding was related to the cross-cutting area of human performance in work practices, per IMC 0305 H.4.a., in that, personnel work practices and human performance error reduction techniques were not used commensurate with the risk of the assigned task.

Inspection Report# : [2009005](#) ([pdf](#))

G

Significance: Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

EXCESS DOSE INCURRED FOR THE ALTERNATE DECAY HEAT REMOVAL PROJECT

The inspectors identified a finding of very low safety significance for inadequate job planning and ineffective work controls which adversely impacted the licensee's ability to minimize dose for the alternate decay heat removal (ADHR) project during Refuel Outage 12. Specifically, controls were not effectively implemented to reduce ambient radiation levels, and minimize in-field work hours for craft personnel. The issue resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with modifications to the ADHR.

Corrective actions were implemented to address the organization and programmatic deficiencies in managing the installation of major plant modifications.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for ALARA planning, in that, ineffective ALARA planning and work control deficiencies contributed to an actual increase in worker doses in excess of five person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3 year rolling average dose for the Perry Plant was less than the SDP threshold of 240-person-rem for boiling water reactors at the time the performance deficiency occurred. Consequently, the inspectors concluded through the SDP

assessment that this is a finding of very low safety-significance. The finding was determined to be associated with a cross-cutting aspect in the area of human performance in work controls, per IMC 0305 H.3.a., in that, the licensee did not appropriately plan work activities by incorporating radiological safety.

Inspection Report# : [2009005](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Appropriate Water Sheilding Between Irradiated Fuel and in-vessel 360 degree platform

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.4.1.a for the failure to establish, implement, and maintain adequate written procedures regarding the radiation safety program. The licensee failed to implement procedurally required compensatory measures associated with moving irradiated fuel assemblies. Specifically, workers on the 360 platform were within close proximity of the refueling mast while fuel moves were in progress. As corrective actions, the licensee posted information signs to control access to specific areas of the 360 platform and planned to incorporate more rigorous radiological controls into the governing procedure. The licensee entered the issue into its corrective action program as CR 09-54697.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not implementing adequate radiological control may potentially result in unplanned exposures to radioactive material. The finding was determined to be of very low safety significance because it was not an as-low-as-is-reasonably-achievable (ALARA) planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the decision making component of the human performance area in accordance with IMC 0305 H.1(b), because the licensee did not adequately use conservative assumptions in decision making.

Inspection Report# : [2009003](#) ([pdf](#))

G

Significance: Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Barricade and Conspicuously Post a High Radiation Area

The inspectors reviewed a self-revealing finding of very low safety significance and an associated NCV of Technical Specification 5.4.7.a for the failure to barricade and conspicuously post a high radiation area on the 599' elevation of the auxiliary building. As corrective actions, the licensee barricaded and conspicuously posted the affected area as a high radiation area and performed gravity flushes of piping with clean water to reduce the ambient dose rates. The licensee entered the issue into its corrective action program as CR 09-55453.

The finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of protecting worker health and safety from exposure to radiation, in that, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the work control component of the human performance area in accordance with IMC 0305 .H.3(b), because the licensee did not adequately coordinate work activities.

Inspection Report# : [2009003](#) ([pdf](#))

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : July 02, 2010

Perry 1

2Q/2010 Plant Inspection Findings

Initiating Events

G

Significance: Dec 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO ADHERE TO MAINTENANCE INSTRUCTIONS RESULTED IN LOSS OF RECIRCULATION PUMP 'A'

A finding of very low significance was self-revealed on October 15, 2009, when one of two reactor recirculation pumps failed to transfer to slow speed while operators were attempting to downshift both pumps. The finding involved the licensee's failure to adhere to maintenance instructions when personnel incorrectly assembled a relay contactor during maintenance activities on an 'A' recirculation pump low frequency motor generator relay panel. The improperly assembled contactor led to the failure of the 2A breaker to close and re-energize recirculation pump 'A' in slow speed, which caused the loss of the pump and a subsequent unplanned drop in power. No violation of regulatory requirements occurred, and the issue was entered into the licensee's corrective action program.

The failure to adhere to the maintenance instructions resulted in the loss of recirculation pump 'A,' which caused an actual upset in plant stability, and directly affected the objective for the Initiating Events cornerstone. The finding was more than minor because the reactor recirculation pump failure to downshift affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. The primary cause of this finding was related to the cross-cutting area of human performance, per IMC 0305 H.4.a., work practices, human error prevention techniques, because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2009005](#) (pdf)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

UNEXPECTED HALF SCRAM DUE TO FAULTY TROUBLESHOOTING PLAN

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an appropriate troubleshooting plan for repairing Average Power Range Monitor (APRM) 'A.' Specifically, the troubleshooting plan for inoperable APRM 'A' did not provide proper guidance to the technicians resulting in an unexpected half scram on the reactor protection system and subsequent required operator actions. The licensee entered the error into their corrective action program as CR 09-63991. As part of its corrective actions, the licensee planned to place placards in the APRM cabinets warning of the special instructions to remove and replace the cards.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to change reactor power to maintain reactor power at a stable value. Therefore, the performance deficiency impacted the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not

appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site condition, or the need for planned contingencies, compensatory actions and abort criteria. Specifically, licensee personnel did not adequately research the impact of a circuit card's removal and reinsertion into the control circuitry for APRM 'A,' on other related systems contributing directly to an unplanned power transient on the reactor.

Inspection Report# : [2009004 \(pdf\)](#)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

MOISTURE SEPARATOR REHEATER LEVEL SWITCH MAINTENACE CAUSED UNIT TRIP

A finding of very low safety significance was self-revealed on June 21, 2009, for the failure to adequately implement the requirements of Nuclear Operating Procedure (NOP)-WM-4300, Order Execute Process. Specifically, a supervisor authorized work order steps to be performed out of sequence on level switches for the moisture separator reheaters (MSR). The failure to perform steps in order led to some steps being missed and ultimately to a main turbine trip and associated reactor scram. The licensee entered this item into their corrective action program as CR 09-60855. The licensee's immediate actions included response to the reactor scram and formation of a troubleshooting team to conduct a root cause investigation of the failure of the MSR level indicators.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability. Specifically, inadequate adjustment and calibration of the level switches following replacement resulted in a main turbine trip and reactor scram from full power. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding resulted in a reactor trip, it did not contribute to the likelihood that mitigation equipment would not be available, therefore, the inspectors determined the finding to be of very low safety significance. This finding has a cross cutting aspect in the area human performance, resources per IMC 0305 H.2(c), because the licensee did not ensure that procedures were adequate to assure nuclear safety. Specifically, the generic instrumentation and control instruction and the work order for conducting maintenance on the moisture separator reheater level switches did not contain critical vendor information or guidance to reflect the significance of taking as found data to support calibration of the replacement switches.

Inspection Report# : [2009004 \(pdf\)](#)

Mitigating Systems

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING POST-MAINTENANCE ACTIVITIES

. A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition when the Unit 1 Division 1 Emergency Diesel Generator (EDG) was out of service for maintenance. Specifically, there was a 5 hour period of time that the licensee restored plant risk to GREEN status while the EDG remained unavailable and plant risk was actually YELLOW. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was < 1E-6. This finding had a cross-cutting aspect in the area of Human Performance,

Decision-Making per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform a complete post-maintenance test which would have verified the EDG system was fully functional and available to perform its mission at the end of the maintenance period.

Inspection Report# : [2010002](#) ([pdf](#))

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAKE AN ACCURATE IMMEDIATE OPERABILITY DETERMINATION

A finding of very low safety significance was identified by the inspectors for the licensee's failure to make an accurate immediate operability determination (IOD) based on the actual plant conditions and the available information to provide reasonable assurance of operability. Specifically, on February 15, 2010, through wall leakage was identified coming from a welded elbow connection of an instrument line associated with the 'B' Emergency Closed Cooling (ECC) system supply to the 'B' control complex chiller heat exchanger. This instrument line is an American Society of Mechanical Engineers (ASME) Section III, Class 3 piping system, and the licensee's IOD declared the 'B' ECC system operable without the degradation mechanism being discernable from visual examination (such as external corrosion or wear) or having substantial operating experience (site specific) with the identified degradation mechanism in the affected system. No violation of regulatory requirements occurred, and the issue was entered into the licensee's CAP.

The performance deficiency was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Equipment Performance-Availability, Reliability," and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance because a loss of system safety function, or the actual loss of safety function of a single train for greater than its TS-allowed outage time did not occur, and the finding does not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding had a safety culture cross-cutting aspect in the area of Problem Identification and Resolution, related to the Operating Experience component for not implementing and institutionalizing operating experience through changes to station processes, procedures, equipment, and training programs per IMC 0310 (P.2 (b)). Specifically, the requirement for the degradation mechanism of through wall leakage on ASME Section III, Class 2 and 3 piping, to be readily apparent from visual examination in order to support an operable IOD, was not completely understood by operations personnel. This finding did not involve a violation of regulatory requirements.

Inspection Report# : [2010002](#) ([pdf](#))

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM AN ADEUQATE POST-MAINTENANCE TEST FOLLOWING INSTALLATION OF NEW EMERGENCY DIESEL GENERATOR CARBON DIOXIDE SYSTEM CONTROL PANELS

A finding of very low safety significance (Green) and associated non-cited violation of license condition 2.C.(6), Fire Protection, was self-revealed for the licensee's failure implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR). Specifically, the licensee failed to ensure that, "...the main floor [of the Diesel Generator Building] is protected by a total flooding carbon dioxide system for fire suppression." The licensee had installed a permanent modification to the carbon dioxide system for the diesel generator room, but had chosen not to conduct complete post modification testing. The failure to conduct a complete test resulted in a wiring error to go undetected. Testing after the system was placed in service identified that the system did not function as designed. Troubleshooting identified that Division 2 and 3 emergency diesel generators (EDG) pneumatic electric relays in the new control panel were cross-wired to Division 3 and 2 EDG fan relays, respectively, in the control box. As part of their corrective actions, the licensee re-labeled the wires correctly in the CO2 panels and landed them on their appropriate terminals. The licensee entered this issue into their corrective action

program as CR 09 60866. The licensee's immediate corrective actions included placing the system in lockout and notifying all fire team personnel of the manual actions required to initiate CO₂ flow into the emergency diesel generator rooms.

The finding was determined to be more than minor because, if left uncorrected, the inability of the EDG automatic fire suppression system to perform its function would become a more significant safety concern. Specifically, a fire in the Division 2 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 3 EDG inoperable. Similarly, a fire in the Division 3 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 2 EDG inoperable. The inspectors concluded this finding was associated with the Mitigating Systems cornerstone. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined that the finding degraded the fire protection defense in depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, Significance Determination Process, the performance issue was determined to be in the fixed fire protection systems category based on the fixed fire suppression systems being degraded. This finding did not screen as very low safety significance (Green) in the Phase 1 analysis and a Phase 2 analysis under IMC 0609 Appendix F was required.

A regional senior reactor analyst evaluated this finding and assumed the fire frequency to be 3.0E-2 for the EDG rooms based on the licensee's IPEEE (Individual Plant Examination – External Events). Considering the fire frequency and remaining mitigating capability in the event of a plant transient, the senior reactor analyst determined that the risk associated with this finding was less than 1.0E-06. Therefore, this finding was determined to be best characterized as very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, decision making, per IMC 0609 H.1(b), because the licensee's decisions did not demonstrate that nuclear safety was an overriding priority. Specifically, the licensee chose to minimize system unavailability time over performing a full and complete post-maintenance test on a newly installed EDG CO₂ control system, a test that would have identified the wiring error.

Inspection Report# : [2009004](#) (pdf)

G

Significance: Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

MMAINTENANCE ERRORS CAUSE LOSS OF DIVISION 1 ECCS ELECTRICAL POWER

A finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1 was self-revealed when the licensee failed to follow Nuclear Operating Procedure (NOP)-WM-3001; Work Management PM Processes. Specifically, step 4.5.5 of NOP-WM-3001 states, "If a General Nuclear Preventative Maintenance (GNPM) Order cannot be completed as planned due to ... replacement of a failed or degraded component, then the MWC Supervisor shall take appropriate actions in accordance with the flow diagram in Attachment 6 ..." During the performance of work order 200297036, for safety related 480-V breaker EF1A03, the supervisor directed a 4-point switch be replaced as part of the work order; however, no evaluation of the change in scope was completed and a CR was not written as required by Attachment 6 of NOP-WM-3001. The failure to evaluate the replacement lead to the loss of power to a number of safety related components. The licensee entered this item into their corrective action program as CR 09-63681. The licensee's immediate action included entry into the appropriate technical specifications, restoration of the lost electrical power bus and restoration of emergency core cooling systems which were made inoperable as a result of the power loss.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of human performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequate work planning caused a loss of electrical power to bus EF-1-A, the safety-related 480 V power supply to Division 1 components placing the plant in an orange probabilistic safety analysis risk condition. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 2, the inspectors determined that core decay heat removal was degraded. Using Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones," the inspectors assessed the finding as having very low

safety significance (Green) because no loss of safety system function occurred and no loss of function of a single train occurred for greater than its TS-allowed outage time. This finding has a cross-cutting aspect in the area of human performance, work control per IMC 0609 H.3(b) because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, licensee personnel failed to plan and coordinate the replacement of an auxiliary switch in breaker EF1A03 thereby not incorporating the impact of the changes to the work scope or activity on the plant and human performance.

Inspection Report# : [2009004](#) ([pdf](#))

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Adequately Establish the Radiological Conditions In A Locked High Radiation Area to Allow Workers to Be Properly Briefed Prior to Entry.

A finding of very low safety significance and an associated Non-Cited Violation (NCV) of Technical Specification 5.7.1 was self-revealed following worker entry into the fuel pool cooling and cleanup (FPCC) heat exchanger room. At the time, the FPCC heat exchanger room was being controlled as a locked high radiation area (HRA). The licensee failed to adequately determine radiological dose rates in the room to ensure workers were briefed accurately on the radiological conditions prior to entry. On March 12, 2010, workers involved in tag-out activities in the room, encountered greater than expected dose rates. After completion of a tag-out activity in the FPCC heat exchanger room, the licensee identified that the electronic dosimeter (ED) worn by one of the workers had a dose rate of 550 mrem/hour and had alarmed. The workers were briefed to expect dose rates no greater than 150 mrem/hour based on the radiation survey used to support the briefing. The radiological information conveyed to the workers through a briefing by the radiation protection (RP) staff was inadequate because it was based on an incomplete survey. As part of the licensee's corrective actions, lessons learned were shared with the RP staff to address survey adequacy and for enhanced communications with workers during pre-job briefings.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. The workers were not made aware of the radiological conditions before entry into the room. Therefore, as provided in Example 6 (h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross cutting component in the human performance area for inadequate work control (H.3.(a)) in that, work activities were not adequately planned by incorporating job site radiological conditions. Specifically, the licensee job briefing did not utilize complete and accurate survey maps for the areas being entered into by the workers assigned to conduct tasks in the FPCC heat exchanger room. (Section 2RS1.2)

Inspection Report# : [2010003](#) ([pdf](#))

G**Significance:** Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Work In High Radiation Areas Within The Bounds Of The Radiological Briefing Resulting In Entry Into Areas Without Knowledge Of The Radiological Conditions. (Section 2RS1.3)

A finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 was self-revealed after workers entered into high radiation areas (HRAs) on March 28, 2010. On two occasions, workers entered HRAs without knowledge of the radiological (dose rate) conditions of the areas entered. As a result, the electronic dosimeters (EDs) worn by the workers alarmed on high dose rate. The involved individuals were authorized to work in specified locations within the HRAs and were informed of the radiological conditions by the radiation protection (RP) staff for those specific areas. However, the workers took actions inconsistent with the briefings because they moved to other locations without authorization from RP and without knowledge of the radiological conditions of the area they entered. The individuals were briefed to expect dose rates of approximately 100 mrem/hour but traversed into other locations within the HRA with dose rates three to six times greater than those briefed. As corrective actions, the licensee is developing means to improve its pre-job briefings and contemplating other approaches to ensure workers do not work beyond the scope of the pre-job brief.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. In both instances the workers took unauthorized actions and entered into other HRAs unaware of the elevated radiological conditions in those areas. Therefore, as provided in Example 6(h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an ALARA planning issue, there were no overexposures, nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of the incidents each involved cross-cutting components in the human performance area for inadequate work practices (H.4.(b)). Specifically, personnel work practices did not support human performance because the licensee did not effectively communicate expectations regarding procedural compliance and personnel failed to follow procedures. (Section 2RS1.3)

Inspection Report# : [2010003 \(pdf\)](#)**G****Significance:** Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate ALARA Planning And Radiological Controls That Did Not Prevent Unplanned, Unintended Dose For Several Work Activities In Refuel Outage 12.

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1101.b for inadequate ALARA planning and radiological controls. The inspectors determined that as a result of these inadequacies, the licensee's ALARA program did not prevent unplanned, unintended dose for several work activities during refuel outage 12 (RFO-12). As a result, the licensee failed to achieve occupational radiation exposures that were ALARA. The issue was entered into the licensee's CAP as CR 09-59216, and corrective actions were implemented to address the outage planning and work execution issues.

The inspectors identified Example 6(i) of IMC 0612, Appendix E, as similar to the performance issue. Therefore, as provided in Example 6(i), the inspectors determined that the performance deficiency was more than minor.

Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker exposures were not maintained ALARA. The inspectors concluded that the finding did not result in overexposures, a substantial potential for overexposures, or a compromised ability to assess dose. The inspectors determined that the finding involved ALARA planning and work controls. Since the licensee's 3-year rolling collective dose average was less than 240 person-rem per unit, at the time the performance deficiency occurred, the inspectors determined that the SDP assessment for this finding was of very low safety significance. The inspectors also concluded that the finding was associated with a cross-cutting aspect in the area of human performance in the area of work controls (H.3.(a)), in that, the licensee did not appropriately plan work

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Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Evaluate The Need For Radiological Engineering Measures To Control Contamination During Installation Of A Cover Over The Drywell Head.

4A finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was self-revealed during an activity associated with the installation of a contamination control cover element (i.e., the parachute) over the drywell head. The inspectors concluded that the licensee failed to perform an evaluation to determine the need for process or other engineering controls as required by 10 CFR 20.1701 and 20.1702. On February 24, 2009, 15 individuals working on the refuel floor were contaminated and several received small intakes of radioactive material during installation of the cover. Low levels of airborne radioactivity were created and contamination was spread over large areas of the refuel floor. The individuals involved in the work activity were not provided with instruction for the installation and were unfamiliar with the task. Also, neither an ALARA Plan nor radiation work permit (RWP) specified if or how the drywell head was to be covered because the work package lacked sufficient detail. As corrective actions, the licensee removed the parachute cover and applied a fixative to the drywell head to minimize further spread of contamination. An experienced supervisor was assigned to the refuel floor to better oversee work activities.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to evaluate the methods used to install the parachute cover and use engineering controls resulted in personal contaminations and intakes to several workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The work package was incomplete and failed to prescribe if and how the cover was to be installed over the drywell head to ensure a successful outcome. Consequently, the cause of the problem involved a cross-cutting component in the human performance area for resources (H.2.(c)), in that, the licensee did not ensure that personnel, equipment and procedures including the work package were available and adequate. (Section 2RS3.1).

Inspection Report# : [2010003](#) (pdf)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Effectively Use The Intended Radiological Engineering Controls During Cavity Drain-Down In Preparation For Its Decontamination.

5A finding of very low safety significance and an associated NCV of Technical Specification 5.4.1 was self-revealed during reactor cavity drain down. On March 14, 2009, an airborne radioactivity condition (about 3.3 DAC (derived air concentration)) was generated on the refuel floor when the cavity water level was lowered to support decontamination activities. The inspectors concluded that the licensee failed to effectively implement intended radiological engineering controls in accordance with the ALARA Plan, which caused the event. Due to a communication problem, cavity drain-down commenced before the decontamination crew already positioned on the refuel floor was ready to support the activity. Moreover, the drain down proceeded at a rate faster than expected by the work crew. The work plan called for the cavity walls to be misted with water as the drain-down took place. Five workers had small (low dose) unplanned intakes. Corrective actions focused on the communications problem and better controlling the rate of drain-down through a procedural modification.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to effectively

implement intended engineering controls during cavity drain-down caused several unplanned worker intakes and placed workers at increased radiological risk. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The cause of the problem involved a cross-cutting component in the human performance area for inadequate work control (H.3.(b)), in that, the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance. (Section 2RS3.1).

Inspection Report# : [2010003](#) (pdf)

G

Significance: G Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

UNPOSTED HIGH RADIATION AREA AT THE TIP MACHINES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7.1 for the failure to conspicuously post a high radiation area on the 599' elevation of the containment building. Corrective actions included instituting high radiation area controls when the traverse in-core probe system is operated. The licensee entered the issue into its corrective action program as Condition Reports 09-59344 and 09-67987.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for as-low-as-is-reasonably-achievable (ALARA) planning, in that, not conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The primary cause of this finding was related to the cross-cutting area of human performance in work practices, per IMC 0305 H.4.a., in that, personnel work practices and human performance error reduction techniques were not used commensurate with the risk of the assigned task.

Inspection Report# : [2009005](#) (pdf)

G

Significance: G Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

EXCESS DOSE INCURRED FOR THE ALTERNATE DECAY HEAT REMOVAL PROJECT

The inspectors identified a finding of very low safety significance for inadequate job planning and ineffective work controls which adversely impacted the licensee's ability to minimize dose for the alternate decay heat removal (ADHR) project during Refuel Outage 12. Specifically, controls were not effectively implemented to reduce ambient radiation levels, and minimize in-field work hours for craft personnel. The issue resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with modifications to the ADHR. Corrective actions were implemented to address the organization and programmatic deficiencies in managing the installation of major plant modifications.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for ALARA planning, in that, ineffective ALARA planning and work control deficiencies contributed to an actual increase in worker doses in excess of five person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3 year rolling average dose for the Perry Plant was less than the SDP threshold of 240-person-rem for boiling water reactors at the time the performance deficiency occurred. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety-significance. The finding was determined to be associated with a cross-cutting aspect in the area of human performance in work controls, per IMC 0305 H.3.a., in that, the licensee did not appropriately plan work activities by incorporating radiological safety.

Inspection Report# : [2009005](#) (pdf)

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : September 02, 2010

Perry 1

3Q/2010 Plant Inspection Findings

Initiating Events

G

Significance: Dec 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO ADHERE TO MAINTENANCE INSTRUCTIONS RESULTED IN LOSS OF RECIRCULATION PUMP 'A'

A finding of very low significance was self-revealed on October 15, 2009, when one of two reactor recirculation pumps failed to transfer to slow speed while operators were attempting to downshift both pumps. The finding involved the licensee's failure to adhere to maintenance instructions when personnel incorrectly assembled a relay contactor during maintenance activities on an 'A' recirculation pump low frequency motor generator relay panel. The improperly assembled contactor led to the failure of the 2A breaker to close and re-energize recirculation pump 'A' in slow speed, which caused the loss of the pump and a subsequent unplanned drop in power. No violation of regulatory requirements occurred, and the issue was entered into the licensee's corrective action program.

The failure to adhere to the maintenance instructions resulted in the loss of recirculation pump 'A,' which caused an actual upset in plant stability, and directly affected the objective for the Initiating Events cornerstone. The finding was more than minor because the reactor recirculation pump failure to downshift affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. The primary cause of this finding was related to the cross-cutting area of human performance, per IMC 0305 H.4.a., work practices, human error prevention techniques, because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : [2009005 \(pdf\)](#)

Mitigating Systems

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

UNACCEPTABLE PRECONDITION OF RHR VALVE PRIOR TO ASME IN-SERVICE TESTING

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion XI, Test Control, for the unacceptable preconditioning of the 'A' residual heat removal (RHR) pump minimum flow valve prior to quarterly in-service testing. Specifically, the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, and had not previously performed an evaluation assessing the sequence for preconditioning. The licensee entered the issue into their corrective action program.

The inspectors determined that unacceptably preconditioning the RHR minimum flow valve was a performance deficiency that affected the Mitigating Systems Cornerstone because it can mask the true as-found condition of a component designed to mitigate accidents. The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification (TS)-allowable outage

time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross-cutting aspect in the work control planning component of the Human Performance area (per IMC 0310 H.3(a)), because the licensee did not appropriately plan work activities for plant structures, systems, and components. Specifically, the licensee did not schedule the surveillance tests in the proper sequence to prevent unacceptable preconditioning of the valve.

Inspection Report# : [2010004 \(pdf\)](#)

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION LCOS WHEN REACTOR VESSEL LEVEL INSTRUMENTS WERE DECLARED INOPERABLE

The inspectors identified a finding of very low safety significance and associated NCV for a failure to comply with TS 3.0.2 by not entering TS Limiting Condition for Operation (LCO) 3.3.5.1 Condition A and TS LCO 3.3.6.1 Condition A when required. The inspectors determined that the licensee incorrectly utilized a TS Surveillance Requirement Note that allows a delay in entering the Conditions and Required Actions for the given TS LCO. As a result, the licensee failed to correctly enter the Conditions and Required Actions when reactor level instruments were declared inoperable to perform testing in support of planned maintenance. The licensee entered the issue associated with the failure to comply with TS into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Equipment Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage); and if left uncorrected it could lead to a more significant safety concern. This finding is of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its TS-allowable outage time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross cutting aspect in the decision making component of Human Performance cross cutting area (per IMC 0310 H.1(b)), because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee incorrectly used the TS Surveillance Requirement Note to satisfy maintenance requirements.

Inspection Report# : [2010004 \(pdf\)](#)

G

Significance: Aug 03, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Effectively Manage, Prioritize and Disposition Numerous Operations Procedures Document Change Requests (DCRs) Notifications

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a for the licensee's failure to maintain written procedures covering "General Plant Operating Procedures," "Procedures for Startup, Operation and Shutdown of Safety-Related BWR Systems," and "Procedures for Combating Emergencies and Other Significant Events," as required by the Technical Specifications. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing design change requests (DCRs). The DCRs documented operations procedure issues/discrepancies identified by plant operators during plant operation activities under normal, abnormal, emergency and shutdown conditions. The licensee entered this finding into their corrective action program (CR10 79187) and performed a cause analysis evaluation to identify the causes and determine potential impact on plant operations.

The finding was more than minor in accordance with IMC 0612, Appendix B because the finding was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee's failure to maintain the operations procedures up to date could have complicated and prolonged operator response during plant operation activities under normal, abnormal, and emergency conditions. The finding was of very low safety significance based on a Phase 1 screening in

accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a.

This finding had a cross cutting aspect in the area of human performance, resources because the licensee did not provide complete, accurate, and up-to-date operations procedures to plant personnel. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing DCRs. The DCRs documented procedure changes to be incorporated into plant procedures that were used during plant operation activities under normal, abnormal, emergency and shutdown conditions. [H.2(c)] (Section 1R17.1b.(1))

Inspection Report# : [2010006 \(pdf\)](#)

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING POST-MAINTENANCE ACTIVITIES

. A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition when the Unit 1 Division 1 Emergency Diesel Generator (EDG) was out of service for maintenance. Specifically, there was a 5 hour period of time that the licensee restored plant risk to GREEN status while the EDG remained unavailable and plant risk was actually YELLOW. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was < 1E-6. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform a complete post-maintenance test which would have verified the EDG system was fully functional and available to perform its mission at the end of the maintenance period.

Inspection Report# : [2010002 \(pdf\)](#)

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAKE AN ACCURATE IMMEDIATE OPERABILITY DETERMINATION

A finding of very low safety significance was identified by the inspectors for the licensee's failure to make an accurate immediate operability determination (IOD) based on the actual plant conditions and the available information to provide reasonable assurance of operability. Specifically, on February 15, 2010, through wall leakage was identified coming from a welded elbow connection of an instrument line associated with the 'B' Emergency Closed Cooling (ECC) system supply to the 'B' control complex chiller heat exchanger. This instrument line is an American Society of Mechanical Engineers (ASME) Section III, Class 3 piping system, and the licensee's IOD declared the 'B' ECC system operable without the degradation mechanism being discernable from visual examination (such as external corrosion or wear) or having substantial operating experience (site specific) with the identified degradation mechanism in the affected system. No violation of regulatory requirements occurred, and the issue was entered into the licensee's CAP.

The performance deficiency was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Equipment Performance-Availability, Reliability," and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance because a loss

of system safety function, or the actual loss of safety function of a single train for greater than its TS-allowed outage time did not occur, and the finding does not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding had a safety culture cross-cutting aspect in the area of Problem Identification and Resolution, related to the Operating Experience component for not implementing and institutionalizing operating experience through changes to station processes, procedures, equipment, and training programs per IMC 0310 (P.2 (b)). Specifically, the requirement for the degradation mechanism of through wall leakage on ASME Section III, Class 2 and 3 piping, to be readily apparent from visual examination in order to support an operable IOD, was not completely understood by operations personnel. This finding did not involve a violation of regulatory requirements.

Inspection Report# : [2010002](#) ([pdf](#))

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Adequately Establish the Radiological Conditions In A Locked High Radiation Area to Allow Workers to Be Properly Briefed Prior to Entry.

A finding of very low safety significance and an associated Non-Cited Violation (NCV) of Technical Specification 5.7.1 was self-revealed following worker entry into the fuel pool cooling and cleanup (FPCC) heat exchanger room. At the time, the FPCC heat exchanger room was being controlled as a locked high radiation area (HRA). The licensee failed to adequately determine radiological dose rates in the room to ensure workers were briefed accurately on the radiological conditions prior to entry. On March 12, 2010, workers involved in tag-out activities in the room, encountered greater than expected dose rates. After completion of a tag-out activity in the FPCC heat exchanger room, the licensee identified that the electronic dosimeter (ED) worn by one of the workers had a dose rate of 550 mrem/hour and had alarmed. The workers were briefed to expect dose rates no greater than 150 mrem/hour based on the radiation survey used to support the briefing. The radiological information conveyed to the workers through a briefing by the radiation protection (RP) staff was inadequate because it was based on an incomplete survey. As part of the licensee's corrective actions, lessons learned were shared with the RP staff to address survey adequacy and for enhanced communications with workers during pre-job briefings.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. The workers were not made aware of the radiological conditions before entry into the room. Therefore, as provided in Example 6 (h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross cutting component in the human performance area for inadequate work control (H.3.(a)) in that, work activities were not adequately planned by incorporating job site radiological conditions. Specifically, the licensee job briefing did not utilize complete and accurate survey maps for the areas being entered into by the workers assigned to conduct tasks in the FPCC heat exchanger room. (Section 2RS1.2)

G**Significance:** Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Work In High Radiation Areas Within The Bounds Of The Radiological Briefing Resulting In Entry Into Areas Without Knowledge Of The Radiological Conditions. (Section 2RS1.3)

A finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 was self-revealed after workers entered into high radiation areas (HRAs) on March 28, 2010. On two occasions, workers entered HRAs without knowledge of the radiological (dose rate) conditions of the areas entered. As a result, the electronic dosimeters (EDs) worn by the workers alarmed on high dose rate. The involved individuals were authorized to work in specified locations within the HRAs and were informed of the radiological conditions by the radiation protection (RP) staff for those specific areas. However, the workers took actions inconsistent with the briefings because they moved to other locations without authorization from RP and without knowledge of the radiological conditions of the area they entered. The individuals were briefed to expect dose rates of approximately 100 mrem/hour but traversed into other locations within the HRA with dose rates three to six times greater than those briefed. As corrective actions, the licensee is developing means to improve its pre-job briefings and contemplating other approaches to ensure workers do not work beyond the scope of the pre-job brief.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. In both instances the workers took unauthorized actions and entered into other HRAs unaware of the elevated radiological conditions in those areas. Therefore, as provided in Example 6(h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an ALARA planning issue, there were no overexposures, nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of the incidents each involved cross-cutting components in the human performance area for inadequate work practices (H.4.(b)). Specifically, personnel work practices did not support human performance because the licensee did not effectively communicate expectations regarding procedural compliance and personnel failed to follow procedures. (Section 2RS1.3)

Inspection Report# : [2010003](#) (pdf)**G****Significance:** Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate ALARA Planning And Radiological Controls That Did Not Prevent Unplanned, Unintended Dose For Several Work Activities In Refuel Outage 12.

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1101.b for inadequate ALARA planning and radiological controls. The inspectors determined that as a result of these inadequacies, the licensee's ALARA program did not prevent unplanned, unintended dose for several work activities during refuel outage 12 (RFO-12). As a result, the licensee failed to achieve occupational radiation exposures that were ALARA. The issue was entered into the licensee's CAP as CR 09-59216, and corrective actions were implemented to address the outage planning and work execution issues.

The inspectors identified Example 6(i) of IMC 0612, Appendix E, as similar to the performance issue. Therefore, as provided in Example 6(i), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker exposures were not maintained ALARA. The inspectors concluded that the finding did not result in overexposures, a substantial potential for overexposures, or a compromised ability to assess dose. The inspectors determined that the finding involved ALARA planning and work controls. Since the licensee's 3-year rolling collective dose average was less than 240 person-rem per unit, at the time the performance deficiency occurred, the inspectors determined that the SDP assessment for this finding was of very low

safety significance. The inspectors also concluded that the finding was associated with a cross-cutting aspect in the area of human performance in the area of work controls (H.3.(a)), in that, the licensee did not appropriately plan work activities by incorporating radiological safety. (Section 2RS2.2)

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Evaluate The Need For Radiological Engineering Measures To Control Contamination During Installation Of A Cover Over The Drywell Head.

4A finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was self-revealed during an activity associated with the installation of a contamination control cover element (i.e., the parachute) over the drywell head. The inspectors concluded that the licensee failed to perform an evaluation to determine the need for process or other engineering controls as required by 10 CFR 20.1701 and 20.1702. On February 24, 2009, 15 individuals working on the refuel floor were contaminated and several received small intakes of radioactive material during installation of the cover. Low levels of airborne radioactivity were created and contamination was spread over large areas of the refuel floor. The individuals involved in the work activity were not provided with instruction for the installation and were unfamiliar with the task. Also, neither an ALARA Plan nor radiation work permit (RWP) specified if or how the drywell head was to be covered because the work package lacked sufficient detail. As corrective actions, the licensee removed the parachute cover and applied a fixative to the drywell head to minimize further spread of contamination. An experienced supervisor was assigned to the refuel floor to better oversee work activities.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to evaluate the methods used to install the parachute cover and use engineering controls resulted in personal contaminations and intakes to several workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The work package was incomplete and failed to prescribe if and how the cover was to be installed over the drywell head to ensure a successful outcome. Consequently, the cause of the problem involved a cross-cutting component in the human performance area for resources (H.2.(c)), in that, the licensee did not ensure that personnel, equipment and procedures including the work package were available and adequate. (Section 2RS3.1).

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Effectively Use The Intended Radiological Engineering Controls During Cavity Drain-Down In Preparation For Its Decontamination.

5A finding of very low safety significance and an associated NCV of Technical Specification 5.4.1 was self-revealed during reactor cavity drain down. On March 14, 2009, an airborne radioactivity condition (about 3.3 DAC (derived air concentration)) was generated on the refuel floor when the cavity water level was lowered to support decontamination activities. The inspectors concluded that the licensee failed to effectively implement intended radiological engineering controls in accordance with the ALARA Plan, which caused the event. Due to a communication problem, cavity drain-down commenced before the decontamination crew already positioned on the refuel floor was ready to support the activity. Moreover, the drain down proceeded at a rate faster than expected by the work crew. The work plan called for the cavity walls to be misted with water as the drain-down took place. Five workers had small (low dose) unplanned intakes. Corrective actions focused on the communications problem and better controlling the rate of drain-down through a procedural modification.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute

of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to effectively implement intended engineering controls during cavity drain-down caused several unplanned worker intakes and placed workers at increased radiological risk. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The cause of the problem involved a cross-cutting component in the human performance area for inadequate work control (H.3.(b)), in that, the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance. (Section 2RS3.1).

Inspection Report# : [2010003](#) ([pdf](#))

G

Significance: Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

UNPOSTED HIGH RADIATION AREA AT THE TIP MACHINES

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7.1 for the failure to conspicuously post a high radiation area on the 599' elevation of the containment building. Corrective actions included instituting high radiation area controls when the traverse in-core probe system is operated. The licensee entered the issue into its corrective action program as Condition Reports 09-59344 and 09-67987.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for as-low-as-is-reasonably-achievable (ALARA) planning, in that, not conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The primary cause of this finding was related to the cross-cutting area of human performance in work practices, per IMC 0305 H.4.a., in that, personnel work practices and human performance error reduction techniques were not used commensurate with the risk of the assigned task.

Inspection Report# : [2009005](#) ([pdf](#))

G

Significance: Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

EXCESS DOSE INCURRED FOR THE ALTERNATE DECAY HEAT REMOVAL PROJECT

The inspectors identified a finding of very low safety significance for inadequate job planning and ineffective work controls which adversely impacted the licensee's ability to minimize dose for the alternate decay heat removal (ADHR) project during Refuel Outage 12. Specifically, controls were not effectively implemented to reduce ambient radiation levels, and minimize in-field work hours for craft personnel. The issue resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with modifications to the ADHR. Corrective actions were implemented to address the organization and programmatic deficiencies in managing the installation of major plant modifications.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for ALARA planning, in that, ineffective ALARA planning and work control deficiencies contributed to an actual increase in worker doses in excess of five person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3 year rolling average dose for the Perry Plant was less than the SDP threshold of 240-person-rem for boiling water reactors at the time the performance deficiency occurred. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety-significance. The finding was determined to be associated with a cross-cutting aspect in the area of human performance in work controls, per IMC 0305 H.3.a., in that, the licensee did not appropriately plan work activities by incorporating radiological safety.

Public Radiation Safety

Significance: SL-IV Jul 16, 2010

Identified By: NRC

Item Type: VIO Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - traditional enforcement portion - traditional enforcement portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

The significance of the violation was assessed using Traditional Enforcement because it was determined to be willful. A Severity Level IV violation was determined to be appropriate because the incident had more than minor safety significance given that the technician was radioactively contaminated and departed the site. The violation was cited since it was willful and because the licensee failed to: (1) timely and appropriately respond to the incident; (2) adequately assess the potential for offsite contamination; and (3) take corrective action to ensure against recurrence.

The associated Performance Deficiency is item 2010-008-02.

Inspection Report# : [2010008 \(pdf\)](#)

G

Significance: G Jul 01, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - Performance Deficiency portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

Failure to follow this procedure represents a performance deficiency. The issue had more than minor safety significance because the RPT was radioactively contaminated and departed the site. The inspectors determined that no cross-cutting components applied to this issue, because the underlying performance issue was the same as the performance deficiency (Failure to follow procedure).

The Traditional Enforcement portion of this issue is tracked as item 2010-008-01.

Inspection Report# : [2010008 \(pdf\)](#)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : November 29, 2010

Perry 1

4Q/2010 Plant Inspection Findings

Initiating Events

G

Significance: Dec 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedures Results in Unplanned Half Scram

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for a failure to follow plant procedures. Specifically, the licensee failed to perform a "burn-in" on a voltage regulator card, as required by Nuclear Operating Business Practice (NOBP)-ER-3399, Fleet Circuit Card and Power Supply Burn-in Guide, which failed prematurely and resulted in an unexpected half scram. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because the finding impacts the Equipment Performance attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that could upset plant stability and challenge critical safety functions during power operations. The finding was of very low safety significance because the Phase 3 analysis resulted in a minimal change in core damage frequency. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not use up-to-date work packages to assure nuclear safety. Specifically, the licensee did not update the voltage regulator card replacement work plan to include the new circuit card burn-in procedure requirement. (H.2(c))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Nov 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unexpected Recirculation Flow Control Valve Runback Due to Inadequate Work Plan

: A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an adequate work plan for replacing voltage regulator cards associated with Average Power Range Monitor (APRM) 'A'. Specifically, the work plan for APRM 'A' did not provide proper guidance to the technicians or operating crew resulting in an unexpected recirculation flow control valve (FCV) runback and subsequent required operator actions. The licensee entered the issue into their corrective action program as condition report (CR) 10-85239. As part of the corrective actions, the licensee plans to place warning placards on the outside of the APRM cabinet doors providing the proper instructions to personnel working in the cabinets.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to maintain reactor power stable. In addition, the performance deficiency impacted the Initiating Events Cornerstone attribute of procedures and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding is associated with a cross cutting aspect in the operating experience component of the Problem Identification & Resolution cross-cutting area because the licensee did not implement internal operating experience (OE) into station processes and procedures. Specifically, licensee personnel did not adequately research and identify previous plant experience regarding the impact of de-energizing the power supply to the control circuitry for APRM 'A' on other related systems contributing directly to an unplanned power transient on the reactor (P.2(b)).

Inspection Report# : [2010007 \(pdf\)](#)

Mitigating Systems

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Suction and Pump Minimum Flow Valves Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non cited violation of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, for unacceptable preconditioning of the high-pressure core spray (HPCS) suction valves and the HPCS pump minimum flow valve prior to quarterly inservice testing (IST) of the same valves. The inspectors determined that a maintenance delay, which caused a shift in the scheduled performance of the quarterly pump and valve testing of the HPCS system, produced a schedule conflict that resulted in cycling of the HPCS pump suction valves less than 9 hours prior to scheduled quarterly IST of the same valves. The schedule change also caused the HPCS pump minimum flow valve to be cycled less than 26 hours prior to the eventual IST of that valve. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety related risk-significant equipment, and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Work Control component of the Human Performance cross-cutting area because the licensee did not properly evaluate work week schedule changes with regard to the impact on other scheduled work. Specifically, the licensee did not reschedule work in a manner which prevented preconditioning of the HPCS suction and pump minimum flow valves. (H.3(b))

Inspection Report# : [2010005](#) ([pdf](#))

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Valve Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a, for failure to establish an adequate procedure to test the high-pressure core spray (HPCS) test return valve to the suppression pool. The inspectors determined that the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, which constituted unacceptable preconditioning. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety-related risk-significant equipment and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution cross-cutting area because the licensee did not implement industry operating experience into station processes and procedures. Specifically, the licensee did not update or revise the surveillance test to prevent unacceptable preconditioning of the valve. (P.2(b))

Inspection Report# : [2010005](#) ([pdf](#))

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate System Functionality of Control Room Breathing Air

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to evaluate and maintain functionality assessments for the main control room emergency breathing air system, which is described in the Updated Safety Analysis Report (USAR). The inspectors determined that the leakage rate that existed on the control room breathing air system exceeded the allowed leakage rate for the system to maintain functionality from July through September 2010, as evaluated by a licensee engineering evaluation completed on December 16, 2010. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because it is similar to example 4.d of IMC 0612, Appendix E, Examples of Minor Issues, and would significantly impact the operators' ability to shutdown the reactor from the main control room using the breathing air system. In addition, the performance deficiency impacts the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification allowable outage time, did not result in a loss of function of non safety related risk-significant equipment and was not risk-significant due to external events. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not maintain a system described in the USAR in a condition that would allow it to meet its described function. Specifically, operators would not be able to remain in the main control room using breathing air for the required time prescribed by the system description in the USAR due to excessive leakage from a system relief valve. (H.2(d))

Inspection Report# : [2010005](#) (pdf)

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

UNACCEPTABLE PRECONDITION OF RHR VALVE PRIOR TO ASME IN-SERVICE TESTING

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion XI, Test Control, for the unacceptable preconditioning of the 'A' residual heat removal (RHR) pump minimum flow valve prior to quarterly in-service testing. Specifically, the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, and had not previously performed an evaluation assessing the sequence for preconditioning. The licensee entered the issue into their corrective action program.

The inspectors determined that unacceptably preconditioning the RHR minimum flow valve was a performance deficiency that affected the Mitigating Systems Cornerstone because it can mask the true as-found condition of a component designed to mitigate accidents. The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification (TS)-allowable outage time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross-cutting aspect in the work control planning component of the Human Performance area (per IMC 0310 H.3(a)), because the licensee did not appropriately plan work activities for plant structures, systems, and components. Specifically, the licensee did not schedule the surveillance tests in the proper sequence to prevent unacceptable preconditioning of the valve.

Inspection Report# : [2010004](#) (pdf)

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION LCOS WHEN REACTOR VESSEL LEVEL INSTRUMENTS WERE DECLARED INOPERABLE

The inspectors identified a finding of very low safety significance and associated NCV for a failure to comply with TS

3.0.2 by not entering TS Limiting Condition for Operation (LCO) 3.3.5.1 Condition A and TS LCO 3.3.6.1 Condition A when required. The inspectors determined that the licensee incorrectly utilized a TS Surveillance Requirement Note that allows a delay in entering the Conditions and Required Actions for the given TS LCO. As a result, the licensee failed to correctly enter the Conditions and Required Actions when reactor level instruments were declared inoperable to perform testing in support of planned maintenance. The licensee entered the issue associated with the failure to comply with TS into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Equipment Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage); and if left uncorrected it could lead to a more significant safety concern. This finding is of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its TS-allowable outage time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross cutting aspect in the decision making component of Human Performance cross cutting area (per IMC 0310 H.1(b)), because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee incorrectly used the TS Surveillance Requirement Note to satisfy maintenance requirements.

Inspection Report# : [2010004](#) (*pdf*)

G

Significance: Aug 03, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Effectively Manage, Prioritize and Disposition Numerous Operations Procedures Document Change Requests (DCRs) Notifications

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a for the licensee's failure to maintain written procedures covering "General Plant Operating Procedures," "Procedures for Startup, Operation and Shutdown of Safety-Related BWR Systems," and "Procedures for Combating Emergencies and Other Significant Events," as required by the Technical Specifications. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing design change requests (DCRs). The DCRs documented operations procedure issues/discrepancies identified by plant operators during plant operation activities under normal, abnormal, emergency and shutdown conditions. The licensee entered this finding into their corrective action program (CR10 79187) and performed a cause analysis evaluation to identify the causes and determine potential impact on plant operations.

The finding was more than minor in accordance with IMC 0612, Appendix B because the finding was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee's failure to maintain the operations procedures up to date could have complicated and prolonged operator response during plant operation activities under normal, abnormal, and emergency conditions. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a.

This finding had a cross cutting aspect in the area of human performance, resources because the licensee did not provide complete, accurate, and up-to-date operations procedures to plant personnel. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing DCRs. The DCRs documented procedure changes to be incorporated into plant procedures that were used during plant operation activities under normal, abnormal, emergency and shutdown conditions. [H.2(c)] (Section 1R17.1b.(1))

Inspection Report# : [2010006](#) (*pdf*)

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING POST-MAINTENANCE ACTIVITIES

. A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition when the Unit 1 Division 1 Emergency Diesel Generator (EDG) was out of service for maintenance. Specifically, there was a 5 hour period of time that the licensee restored plant risk to GREEN status while the EDG remained unavailable and plant risk was actually YELLOW. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was $< 1E-6$. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform a complete post-maintenance test which would have verified the EDG system was fully functional and available to perform its mission at the end of the maintenance period.

Inspection Report# : [2010002 \(pdf\)](#)

G

Significance: Mar 31, 2010

Identified By: NRC

Item Type: FIN Finding

FAILURE TO MAKE AN ACCURATE IMMEDIATE OPERABILITY DETERMINATION

A finding of very low safety significance was identified by the inspectors for the licensee's failure to make an accurate immediate operability determination (IOD) based on the actual plant conditions and the available information to provide reasonable assurance of operability. Specifically, on February 15, 2010, through wall leakage was identified coming from a welded elbow connection of an instrument line associated with the 'B' Emergency Closed Cooling (ECC) system supply to the 'B' control complex chiller heat exchanger. This instrument line is an American Society of Mechanical Engineers (ASME) Section III, Class 3 piping system, and the licensee's IOD declared the 'B' ECC system operable without the degradation mechanism being discernable from visual examination (such as external corrosion or wear) or having substantial operating experience (site specific) with the identified degradation mechanism in the affected system. No violation of regulatory requirements occurred, and the issue was entered into the licensee's CAP.

The performance deficiency was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Equipment Performance-Availability, Reliability," and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance because a loss of system safety function, or the actual loss of safety function of a single train for greater than its TS-allowed outage time did not occur, and the finding does not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding had a safety culture cross-cutting aspect in the area of Problem Identification and Resolution, related to the Operating Experience component for not implementing and institutionalizing operating experience through changes to station processes, procedures, equipment, and training programs per IMC 0310 (P.2 (b)). Specifically, the requirement for the degradation mechanism of through wall leakage on ASME Section III, Class 2 and 3 piping, to be readily apparent from visual examination in order to support an operable IOD, was not completely understood by operations personnel. This finding did not involve a violation of regulatory requirements.

Inspection Report# : [2010002 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Adequately Establish the Radiological Conditions In A Locked High Radiation Area to Allow Workers to Be Properly Briefed Prior to Entry.

A finding of very low safety significance and an associated Non-Cited Violation (NCV) of Technical Specification 5.7.1 was self-revealed following worker entry into the fuel pool cooling and cleanup (FPCC) heat exchanger room. At the time, the FPCC heat exchanger room was being controlled as a locked high radiation area (HRA). The licensee failed to adequately determine radiological dose rates in the room to ensure workers were briefed accurately on the radiological conditions prior to entry. On March 12, 2010, workers involved in tag-out activities in the room, encountered greater than expected dose rates. After completion of a tag-out activity in the FPCC heat exchanger room, the licensee identified that the electronic dosimeter (ED) worn by one of the workers had a dose rate of 550 mrem/hour and had alarmed. The workers were briefed to expect dose rates no greater than 150 mrem/hour based on the radiation survey used to support the briefing. The radiological information conveyed to the workers through a briefing by the radiation protection (RP) staff was inadequate because it was based on an incomplete survey. As part of the licensee's corrective actions, lessons learned were shared with the RP staff to address survey adequacy and for enhanced communications with workers during pre-job briefings.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. The workers were not made aware of the radiological conditions before entry into the room. Therefore, as provided in Example 6 (h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross cutting component in the human performance area for inadequate work control (H.3.(a)) in that, work activities were not adequately planned by incorporating job site radiological conditions. Specifically, the licensee job briefing did not utilize complete and accurate survey maps for the areas being entered into by the workers assigned to conduct tasks in the FPCC heat exchanger room. (Section 2RS1.2)

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Work In High Radiation Areas Within The Bounds Of The Radiological Briefing Resulting In Entry Into Areas Without Knowledge Of The Radiological Conditions. (Section 2RS1.3)

A finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 was self-revealed after workers entered into high radiation areas (HRAs) on March 28, 2010. On two occasions, workers entered HRAs without knowledge of the radiological (dose rate) conditions of the areas entered. As a result, the electronic dosimeters (EDs) worn by the workers alarmed on high dose rate. The involved individuals were authorized to work in specified locations within the HRAs and were informed of the radiological conditions by the radiation protection (RP) staff for those specific areas. However, the workers took actions inconsistent with the briefings because they moved to other locations without authorization from RP and without knowledge of the radiological conditions of the

area they entered. The individuals were briefed to expect dose rates of approximately 100 mrem/hour but traversed into other locations within the HRA with dose rates three to six times greater than those briefed. As corrective actions, the licensee is developing means to improve its pre-job briefings and contemplating other approaches to ensure workers do not work beyond the scope of the pre-job brief.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. In both instances the workers took unauthorized actions and entered into other HRAs unaware of the elevated radiological conditions in those areas. Therefore, as provided in Example 6(h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an ALARA planning issue, there were no overexposures, nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of the incidents each involved cross-cutting components in the human performance area for inadequate work practices (H.4.(b)). Specifically, personnel work practices did not support human performance because the licensee did not effectively communicate expectations regarding procedural compliance and personnel failed to follow procedures. (Section 2RS1.3)

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate ALARA Planning And Radiological Controls That Did Not Prevent Unplanned, Unintended Dose For Several Work Activities In Refuel Outage 12.

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1101.b for inadequate ALARA planning and radiological controls. The inspectors determined that as a result of these inadequacies, the licensee's ALARA program did not prevent unplanned, unintended dose for several work activities during refuel outage 12 (RFO-12). As a result, the licensee failed to achieve occupational radiation exposures that were ALARA. The issue was entered into the licensee's CAP as CR 09-59216, and corrective actions were implemented to address the outage planning and work execution issues.

The inspectors identified Example 6(i) of IMC 0612, Appendix E, as similar to the performance issue. Therefore, as provided in Example 6(i), the inspectors determined that the performance deficiency was more than minor.

Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker exposures were not maintained ALARA. The inspectors concluded that the finding did not result in overexposures, a substantial potential for overexposures, or a compromised ability to assess dose. The inspectors determined that the finding involved ALARA planning and work controls. Since the licensee's 3-year rolling collective dose average was less than 240 person-rem per unit, at the time the performance deficiency occurred, the inspectors determined that the SDP assessment for this finding was of very low safety significance. The inspectors also concluded that the finding was associated with a cross-cutting aspect in the area of human performance in the area of work controls (H.3.(a)), in that, the licensee did not appropriately plan work activities by incorporating radiological safety. (Section 2RS2.2)

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Evaluate The Need For Radiological Engineering Measures To Control Contamination During Installation Of A Cover Over The Drywell Head.

A finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was self-revealed during an activity associated with the installation of a contamination control cover element (i.e., the parachute) over the drywell head. The inspectors concluded that the licensee failed to perform an evaluation to determine the need for process or other engineering controls as required by 10 CFR 20.1701 and 20.1702. On February 24, 2009, 15 individuals

working on the refuel floor were contaminated and several received small intakes of radioactive material during installation of the cover. Low levels of airborne radioactivity were created and contamination was spread over large areas of the refuel floor. The individuals involved in the work activity were not provided with instruction for the installation and were unfamiliar with the task. Also, neither an ALARA Plan nor radiation work permit (RWP) specified if or how the drywell head was to be covered because the work package lacked sufficient detail. As corrective actions, the licensee removed the parachute cover and applied a fixative to the drywell head to minimize further spread of contamination. An experienced supervisor was assigned to the refuel floor to better oversee work activities.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to evaluate the methods used to install the parachute cover and use engineering controls resulted in personal contaminations and intakes to several workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The work package was incomplete and failed to prescribe if and how the cover was to be installed over the drywell head to ensure a successful outcome. Consequently, the cause of the problem involved a cross-cutting component in the human performance area for resources (H.2.(c)), in that, the licensee did not ensure that personnel, equipment and procedures including the work package were available and adequate. (Section 2RS3.1).

Inspection Report# : [2010003](#) (pdf)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Effectively Use The Intended Radiological Engineering Controls During Cavity Drain-Down In Preparation For Its Decontamination.

5A finding of very low safety significance and an associated NCV of Technical Specification 5.4.1 was self-revealed during reactor cavity drain down. On March 14, 2009, an airborne radioactivity condition (about 3.3 DAC (derived air concentration)) was generated on the refuel floor when the cavity water level was lowered to support decontamination activities. The inspectors concluded that the licensee failed to effectively implement intended radiological engineering controls in accordance with the ALARA Plan, which caused the event. Due to a communication problem, cavity drain-down commenced before the decontamination crew already positioned on the refuel floor was ready to support the activity. Moreover, the drain down proceeded at a rate faster than expected by the work crew. The work plan called for the cavity walls to be misted with water as the drain-down took place. Five workers had small (low dose) unplanned intakes. Corrective actions focused on the communications problem and better controlling the rate of drain-down through a procedural modification.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to effectively implement intended engineering controls during cavity drain-down caused several unplanned worker intakes and placed workers at increased radiological risk. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The cause of the problem involved a cross-cutting component in the human performance area for inadequate work control (H.3.(b)), in that, the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance. (Section 2RS3.1).

Inspection Report# : [2010003](#) (pdf)

G**Significance:** Nov 30, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Procedure when Completing Regulatory Applicability Form for a New WARF, RISB, and OSSC Procedure

A finding of very low safety significance was identified by the inspectors for the licensee's failure to follow procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines, when a new procedure was written and implemented describing the operation of the waste abatement reclamation facility (WARF), radioactive interim storage facility (RISB), and on-site storage and container yard (OSSC). Specifically, the determination that new procedure HPI-K0009, "Operation of the WARF, RISB and OSSC Yard," was a managerial or administrative change and, therefore, the 50.59 process was not applicable, did not comply with the direction provided in Section 1.1 of NOBP-LP-4003A. As a result, the differences in the use of these facilities as specified in Procedure HPI-K0009, with their design basis and USAR descriptions were not identified and evaluated. The licensee has rescinded this procedure until the regulatory evaluation is completed.

The finding was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program/process and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix D, "Public Radiation Safety," to assess its significance. The inspectors determined that the finding did not involve radioactive material control, there was not a substantial failure to implement the radiological effluent program, and public dose was less than criteria in 10 CFR Part 50, Appendix I, and 10 CFR 20.1301. This finding is associated with a cross-cutting aspect in the resources component of the human performance cross cutting area because the licensee did not ensure complete, accurate, and up-to-date design documentation and procedures are available. Specifically, there were eleven instances where issues related to operating the WARF, RISB, and OSSC outside of their design bases were identified since 2000 and no actions to correct these issues were developed until 2010, when a procedure was issued (H.2(c)).

Inspection Report# : [2010007 \(pdf\)](#)**Significance:** SL-IV Jul 16, 2010

Identified By: NRC

Item Type: VIO Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - traditional enforcement portion - traditional enforcement portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

The significance of the violation was assessed using Traditional Enforcement because it was determined to be willful. A Severity Level IV violation was determined to be appropriate because the incident had more than minor safety significance given that the technician was radioactively contaminated and departed the site. The violation was cited since it was willful and because the licensee failed to: (1) timely and appropriately respond to the incident; (2) adequately assess the potential for offsite contamination; and (3) take corrective action to ensure against recurrence.

The associated Performance Deficiency is item 2010-008-02.

Inspection Report# : [2010008 \(pdf\)](#)**G****Significance:** Jul 01, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - Performance Deficiency portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation

protection supervision following three consecutive portal monitor alarms at the personal access facility.

Failure to follow this procedure represents a performance deficiency. The issue had more than minor safety significance because the RPT was radioactively contaminated and departed the site. The inspectors determined that no cross-cutting components applied to this issue, because the underlying performance issue was the same as the performance deficiency (Failure to follow procedure).

The Traditional Enforcement portion of this issue is tracked as item 2010-008-01.

Inspection Report# : [2010008](#) (*pdf*)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : March 03, 2011

Perry 1

1Q/2011 Plant Inspection Findings

Initiating Events

G

Significance: Dec 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedures Results in Unplanned Half Scram

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for a failure to follow plant procedures. Specifically, the licensee failed to perform a "burn-in" on a voltage regulator card, as required by Nuclear Operating Business Practice (NOBP)-ER-3399, Fleet Circuit Card and Power Supply Burn-in Guide, which failed prematurely and resulted in an unexpected half scram. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because the finding impacts the Equipment Performance attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that could upset plant stability and challenge critical safety functions during power operations. The finding was of very low safety significance because the Phase 3 analysis resulted in a minimal change in core damage frequency. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not use up-to-date work packages to assure nuclear safety. Specifically, the licensee did not update the voltage regulator card replacement work plan to include the new circuit card burn-in procedure requirement. (H.2(c))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Nov 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unexpected Recirculation Flow Control Valve Runback Due to Inadequate Work Plan

: A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an adequate work plan for replacing voltage regulator cards associated with Average Power Range Monitor (APRM) 'A'. Specifically, the work plan for APRM 'A' did not provide proper guidance to the technicians or operating crew resulting in an unexpected recirculation flow control valve (FCV) runback and subsequent required operator actions. The licensee entered the issue into their corrective action program as condition report (CR) 10-85239. As part of the corrective actions, the licensee plans to place warning placards on the outside of the APRM cabinet doors providing the proper instructions to personnel working in the cabinets.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to maintain reactor power stable. In addition, the performance deficiency impacted the Initiating Events Cornerstone attribute of procedures and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding is associated with a cross cutting aspect in the operating experience component of the Problem Identification & Resolution cross-cutting area because the licensee did not implement internal operating experience (OE) into station processes and procedures. Specifically, licensee personnel did not adequately research and identify previous plant experience regarding the impact of de-energizing the power supply to the control circuitry for APRM 'A' on other related systems contributing directly to an unplanned power transient on the reactor (P.2(b)).

Inspection Report# : [2010007 \(pdf\)](#)

Mitigating Systems

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Suction and Pump Minimum Flow Valves Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non cited violation of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, for unacceptable preconditioning of the high-pressure core spray (HPCS) suction valves and the HPCS pump minimum flow valve prior to quarterly inservice testing (IST) of the same valves. The inspectors determined that a maintenance delay, which caused a shift in the scheduled performance of the quarterly pump and valve testing of the HPCS system, produced a schedule conflict that resulted in cycling of the HPCS pump suction valves less than 9 hours prior to scheduled quarterly IST of the same valves. The schedule change also caused the HPCS pump minimum flow valve to be cycled less than 26 hours prior to the eventual IST of that valve. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety related risk-significant equipment, and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Work Control component of the Human Performance cross-cutting area because the licensee did not properly evaluate work week schedule changes with regard to the impact on other scheduled work. Specifically, the licensee did not reschedule work in a manner which prevented preconditioning of the HPCS suction and pump minimum flow valves. (H.3(b))

Inspection Report# : [2010005](#) ([pdf](#))

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Valve Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a, for failure to establish an adequate procedure to test the high-pressure core spray (HPCS) test return valve to the suppression pool. The inspectors determined that the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, which constituted unacceptable preconditioning. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety-related risk-significant equipment and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution cross-cutting area because the licensee did not implement industry operating experience into station processes and procedures. Specifically, the licensee did not update or revise the surveillance test to prevent unacceptable preconditioning of the valve. (P.2(b))

Inspection Report# : [2010005](#) ([pdf](#))

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate System Functionality of Control Room Breathing Air

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to evaluate and maintain functionality assessments for the main control room emergency breathing air system, which is described in the Updated Safety Analysis Report (USAR). The inspectors determined that the leakage rate that existed on the control room breathing air system exceeded the allowed leakage rate for the system to maintain functionality from July through September 2010, as evaluated by a licensee engineering evaluation completed on December 16, 2010. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because it is similar to example 4.d of IMC 0612, Appendix E, Examples of Minor Issues, and would significantly impact the operators' ability to shutdown the reactor from the main control room using the breathing air system. In addition, the performance deficiency impacts the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification allowable outage time, did not result in a loss of function of non safety related risk-significant equipment and was not risk-significant due to external events. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not maintain a system described in the USAR in a condition that would allow it to meet its described function. Specifically, operators would not be able to remain in the main control room using breathing air for the required time prescribed by the system description in the USAR due to excessive leakage from a system relief valve. (H.2(d))

Inspection Report# : [2010005](#) (pdf)

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

UNACCEPTABLE PRECONDITION OF RHR VALVE PRIOR TO ASME IN-SERVICE TESTING

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion XI, Test Control, for the unacceptable preconditioning of the 'A' residual heat removal (RHR) pump minimum flow valve prior to quarterly in-service testing. Specifically, the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, and had not previously performed an evaluation assessing the sequence for preconditioning. The licensee entered the issue into their corrective action program.

The inspectors determined that unacceptably preconditioning the RHR minimum flow valve was a performance deficiency that affected the Mitigating Systems Cornerstone because it can mask the true as-found condition of a component designed to mitigate accidents. The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification (TS)-allowable outage time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross-cutting aspect in the work control planning component of the Human Performance area (per IMC 0310 H.3(a)), because the licensee did not appropriately plan work activities for plant structures, systems, and components. Specifically, the licensee did not schedule the surveillance tests in the proper sequence to prevent unacceptable preconditioning of the valve.

Inspection Report# : [2010004](#) (pdf)

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION LCOS WHEN REACTOR VESSEL LEVEL INSTRUMENTS WERE DECLARED INOPERABLE

The inspectors identified a finding of very low safety significance and associated NCV for a failure to comply with TS

3.0.2 by not entering TS Limiting Condition for Operation (LCO) 3.3.5.1 Condition A and TS LCO 3.3.6.1 Condition A when required. The inspectors determined that the licensee incorrectly utilized a TS Surveillance Requirement Note that allows a delay in entering the Conditions and Required Actions for the given TS LCO. As a result, the licensee failed to correctly enter the Conditions and Required Actions when reactor level instruments were declared inoperable to perform testing in support of planned maintenance. The licensee entered the issue associated with the failure to comply with TS into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Equipment Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage); and if left uncorrected it could lead to a more significant safety concern. This finding is of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its TS-allowable outage time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross cutting aspect in the decision making component of Human Performance cross cutting area (per IMC 0310 H.1(b)), because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee incorrectly used the TS Surveillance Requirement Note to satisfy maintenance requirements.

Inspection Report# : [2010004](#) (*pdf*)

G

Significance: Aug 03, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Effectively Manage, Prioritize and Disposition Numerous Operations Procedures Document Change Requests (DCRs) Notifications

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a for the licensee's failure to maintain written procedures covering "General Plant Operating Procedures," "Procedures for Startup, Operation and Shutdown of Safety-Related BWR Systems," and "Procedures for Combating Emergencies and Other Significant Events," as required by the Technical Specifications. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing design change requests (DCRs). The DCRs documented operations procedure issues/discrepancies identified by plant operators during plant operation activities under normal, abnormal, emergency and shutdown conditions. The licensee entered this finding into their corrective action program (CR10 79187) and performed a cause analysis evaluation to identify the causes and determine potential impact on plant operations.

The finding was more than minor in accordance with IMC 0612, Appendix B because the finding was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee's failure to maintain the operations procedures up to date could have complicated and prolonged operator response during plant operation activities under normal, abnormal, and emergency conditions. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a.

This finding had a cross cutting aspect in the area of human performance, resources because the licensee did not provide complete, accurate, and up-to-date operations procedures to plant personnel. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing DCRs. The DCRs documented procedure changes to be incorporated into plant procedures that were used during plant operation activities under normal, abnormal, emergency and shutdown conditions. [H.2(c)] (Section 1R17.1b.(1))

Inspection Report# : [2010006](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Establish Radiological Conditions in a Locked HRA [i.e., the fuel pool cooling and cleanup (FPCC) Heat Exchanger Room] Prior to Allowing Personnel Access.

A finding of very low safety significance and an associated NCV of Technical Specifications (TS) 5.7.2 was self-revealed following the licensee's failure to adequately identify the radiological conditions in the fuel pool cooling and cleanup (FPCC) heat exchanger room prior to a pre-job brief for work in the room and prior to workers entering the room. Specifically, on November 19, 2010, operators involved in tag out activities for a valve encountered elevated dose rates when they entered an un surveyed area on the back side of the FPCC heat exchanger. At the time the FPCC room was controlled as a locked high radiation area (HRA). While entering the area one of the operators received an electronic dosimeter (ED) dose rate alarm of 1500 mRem/hr. Follow-up surveys determined that the highest dose rate in the area entered was 2000 mrem/hr. As part of the licensee's corrective actions, lessons learned were shared with the radiation protection (RP) staff to address survey and briefing inadequacies. Additional performance management actions were implemented by the station.

The inspectors determined that the licensee's failure to adequately identify the radiological conditions in the room prior to workers entering the work area was a performance deficiency. The inspectors determined that the finding was more than minor because the inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the finding; the workers were not made aware of the radiological conditions before entry into the area on the back side of the FPCC heat exchanger. Additionally, the finding impacted the program and process attribute of the Occupational Radiation Safety Cornerstone by adversely affecting the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation in that workers' entry into areas, without knowledge of the radiological conditions, placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the performance deficiency was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross-cutting component in the human performance area of work practices in that the work crew proceeded in the face of uncertainty when unexpected circumstances were encountered in the FPCC heat exchanger room. [H.4(a)]

Inspection Report# : [2011002 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Adequately Establish the Radiological Conditions In A Locked High Radiation Area to Allow Workers to Be Properly Briefed Prior to Entry.

A finding of very low safety significance and an associated Non-Cited Violation (NCV) of Technical Specification 5.7.1 was self-revealed following worker entry into the fuel pool cooling and cleanup (FPCC) heat exchanger room. At the time, the FPCC heat exchanger room was being controlled as a locked high radiation area (HRA). The licensee failed to adequately determine radiological dose rates in the room to ensure workers were briefed accurately on the radiological conditions prior to entry. On March 12, 2010, workers involved in tag-out activities in the room, encountered greater than expected dose rates. After completion of a tag-out activity in the FPCC heat exchanger room, the licensee identified that the electronic dosimeter (ED) worn by one of the workers had a dose rate of 550 mrem/hour and had alarmed. The workers were briefed to expect dose rates no greater than 150 mrem/hour based on the radiation survey used to support the briefing. The radiological information conveyed to the workers through a

briefing by the radiation protection (RP) staff was inadequate because it was based on an incomplete survey. As part of the licensee's corrective actions, lessons learned were shared with the RP staff to address survey adequacy and for enhanced communications with workers during pre-job briefings.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. The workers were not made aware of the radiological conditions before entry into the room. Therefore, as provided in Example 6(h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross cutting component in the human performance area for inadequate work control (H.3.(a)) in that, work activities were not adequately planned by incorporating job site radiological conditions. Specifically, the licensee job briefing did not utilize complete and accurate survey maps for the areas being entered into by the workers assigned to conduct tasks in the FPCC heat exchanger room. (Section 2RS1.2)

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Work In High Radiation Areas Within The Bounds Of The Radiological Briefing Resulting In Entry Into Areas Without Knowledge Of The Radiological Conditions. (Section 2RS1.3)

A finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 was self-revealed after workers entered into high radiation areas (HRAs) on March 28, 2010. On two occasions, workers entered HRAs without knowledge of the radiological (dose rate) conditions of the areas entered. As a result, the electronic dosimeters (EDs) worn by the workers alarmed on high dose rate. The involved individuals were authorized to work in specified locations within the HRAs and were informed of the radiological conditions by the radiation protection (RP) staff for those specific areas. However, the workers took actions inconsistent with the briefings because they moved to other locations without authorization from RP and without knowledge of the radiological conditions of the area they entered. The individuals were briefed to expect dose rates of approximately 100 mrem/hour but traversed into other locations within the HRA with dose rates three to six times greater than those briefed. As corrective actions, the licensee is developing means to improve its pre-job briefings and contemplating other approaches to ensure workers do not work beyond the scope of the pre-job brief.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. In both instances the workers took unauthorized actions and entered into other HRAs unaware of the elevated radiological conditions in those areas. Therefore, as provided in Example 6(h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an ALARA planning issue, there were no overexposures, nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of the incidents each involved cross-cutting components in the human performance area for inadequate work practices (H.4.(b)). Specifically, personnel work practices did not support human performance because the licensee did not effectively communicate expectations regarding procedural compliance and personnel failed to follow procedures. (Section 2RS1.3)

Inspection Report# : [2010003 \(pdf\)](#)

G

Significance: Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate ALARA Planning And Radiological Controls That Did Not Prevent Unplanned, Unintended Dose For Several Work Activities In Refuel Outage 12.

3The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1101.b for inadequate ALARA planning and radiological controls. The inspectors determined that as a result of these inadequacies, the licensee's ALARA program did not prevent unplanned, unintended dose for several work activities during refuel outage 12 (RFO-12). As a result, the licensee failed to achieve occupational radiation exposures that were ALARA. The issue was entered into the licensee's CAP as CR 09-59216, and corrective actions were implemented to address the outage planning and work execution issues.

The inspectors identified Example 6(i) of IMC 0612, Appendix E, as similar to the performance issue. Therefore, as provided in Example 6(i), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker exposures were not maintained ALARA. The inspectors concluded that the finding did not result in overexposures, a substantial potential for overexposures, or a compromised ability to assess dose. The inspectors determined that the finding involved ALARA planning and work controls. Since the licensee's 3-year rolling collective dose average was less than 240 person-rem per unit, at the time the performance deficiency occurred, the inspectors determined that the SDP assessment for this finding was of very low safety significance. The inspectors also concluded that the finding was associated with a cross-cutting aspect in the area of human performance in the area of work controls (H.3.(a)), in that, the licensee did not appropriately plan work activities by incorporating radiological safety. (Section 2RS2.2)

Inspection Report# : [2010003](#) (pdf)

G

Significance: Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Evaluate The Need For Radiological Engineering Measures To Control Contamination During Installation Of A Cover Over The Drywell Head.

4A finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was self-revealed during an activity associated with the installation of a contamination control cover element (i.e., the parachute) over the drywell head. The inspectors concluded that the licensee failed to perform an evaluation to determine the need for process or other engineering controls as required by 10 CFR 20.1701 and 20.1702. On February 24, 2009, 15 individuals working on the refuel floor were contaminated and several received small intakes of radioactive material during installation of the cover. Low levels of airborne radioactivity were created and contamination was spread over large areas of the refuel floor. The individuals involved in the work activity were not provided with instruction for the installation and were unfamiliar with the task. Also, neither an ALARA Plan nor radiation work permit (RWP) specified if or how the drywell head was to be covered because the work package lacked sufficient detail. As corrective actions, the licensee removed the parachute cover and applied a fixative to the drywell head to minimize further spread of contamination. An experienced supervisor was assigned to the refuel floor to better oversee work activities.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to evaluate the methods used to install the parachute cover and use engineering controls resulted in personal contaminations and intakes to several workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The work package was incomplete and failed to prescribe if and how the cover was to be installed over the drywell head to ensure a successful outcome. Consequently, the cause of the problem involved a cross-cutting component in the human performance area for resources (H.2.(c)), in that, the licensee did not ensure that personnel, equipment and procedures including the work package were available and adequate. (Section 2RS3.1).

Inspection Report# : [2010003](#) (pdf)

G**Significance:** Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Effectively Use The Intended Radiological Engineering Controls During Cavity Drain-Down In Preparation For Its Decontamination.

5A finding of very low safety significance and an associated NCV of Technical Specification 5.4.1 was self-revealed during reactor cavity drain down. On March 14, 2009, an airborne radioactivity condition (about 3.3 DAC (derived air concentration)) was generated on the refuel floor when the cavity water level was lowered to support decontamination activities. The inspectors concluded that the licensee failed to effectively implement intended radiological engineering controls in accordance with the ALARA Plan, which caused the event. Due to a communication problem, cavity drain-down commenced before the decontamination crew already positioned on the refuel floor was ready to support the activity. Moreover, the drain down proceeded at a rate faster than expected by the work crew. The work plan called for the cavity walls to be misted with water as the drain-down took place. Five workers had small (low dose) unplanned intakes. Corrective actions focused on the communications problem and better controlling the rate of drain-down through a procedural modification.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to effectively implement intended engineering controls during cavity drain-down caused several unplanned worker intakes and placed workers at increased radiological risk. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The cause of the problem involved a cross-cutting component in the human performance area for inadequate work control (H.3.(b)), in that, the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance. (Section 2RS3.1).

Inspection Report# : [2010003 \(pdf\)](#)

Public Radiation Safety

G**Significance:** Nov 30, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Procedure when Completing Regulatory Applicability Form for a New WARF, RISB, and OSSC Procedure

A finding of very low safety significance was identified by the inspectors for the licensee's failure to follow procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines, when a new procedure was written and implemented describing the operation of the waste abatement reclamation facility (WARF), radioactive interim storage facility (RISB), and on-site storage and container yard (OSSC). Specifically, the determination that new procedure HPI-K0009, "Operation of the WARF, RISB and OSSC Yard," was a managerial or administrative change and, therefore, the 50.59 process was not applicable, did not comply with the direction provided in Section 1.1 of NOBP-LP-4003A. As a result, the differences in the use of these facilities as specified in Procedure HPI-K0009, with their design basis and USAR descriptions were not identified and evaluated. The licensee has rescinded this procedure until the regulatory evaluation is completed.

The finding was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program/process and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix D, "Public Radiation Safety," to assess its significance. The inspectors determined that the finding did not involve radioactive material control, there

was not a substantial failure to implement the radiological effluent program, and public dose was less than criteria in 10 CFR Part 50, Appendix I, and 10 CFR 20.1301. This finding is associated with a cross-cutting aspect in the resources component of the human performance cross cutting area because the licensee did not ensure complete, accurate, and up-to-date design documentation and procedures are available. Specifically, there were eleven instances where issues related to operating the WARF, RISB, and OSSC outside of their design bases were identified since 2000 and no actions to correct these issues were developed until 2010, when a procedure was issued (H.2(c)).
Inspection Report# : [2010007 \(pdf\)](#)

Significance: SL-IV Jul 16, 2010

Identified By: NRC

Item Type: VIO Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - traditional enforcement portion - traditional enforcement portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

The significance of the violation was assessed using Traditional Enforcement because it was determined to be willful. A Severity Level IV violation was determined to be appropriate because the incident had more than minor safety significance given that the technician was radioactively contaminated and departed the site. The violation was cited since it was willful and because the licensee failed to: (1) timely and appropriately respond to the incident; (2) adequately assess the potential for offsite contamination; and (3) take corrective action to ensure against recurrence.

The associated Performance Deficiency is item 2010-008-02.

Inspection Report# : [2010008 \(pdf\)](#)

G

Significance: Jul 01, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - Performance Deficiency portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

Failure to follow this procedure represents a performance deficiency. The issue had more than minor safety significance because the RPT was radioactively contaminated and departed the site. The inspectors determined that no cross-cutting components applied to this issue, because the underlying performance issue was the same as the performance deficiency (Failure to follow procedure).

The Traditional Enforcement portion of this issue is tracked as item 2010-008-01.

Inspection Report# : [2010008 \(pdf\)](#)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : June 07, 2011

Perry 1

2Q/2011 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY EXPECTED EFFECTS RESULTS IN OVERFLOWING THE AUXILIARY BUILDING SUMP

A finding of very low safety significance and associated NCV of Technical Specification 5.4.1 was self-revealed for the licensee's failure to follow plant procedures. The inspectors determined that the licensee failed to follow a procedure which requires verification of expected effects when operating plant components. This failure led to draining approximately 15,000 gallons of suppression pool water which overflowed the Auxiliary Building sump and caused the spread of contamination to various areas of the Auxiliary Building. The licensee entered the issue into their corrective action program. Immediate actions included securing all sources of water to the Auxiliary Building sump and removing water from the Auxiliary Building.

This performance deficiency was determined to be more than minor because it impacted the Human Performance attribute of the Initiating Events cornerstone, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is of very low safety significance because it did not increase the likelihood of a loss of reactor coolant system inventory, degrade the licensee's ability to terminate a leak path or add inventory, or degrade the licensee's ability to recover decay heat removal. The finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area per IMC 0310 (H.2(c)), because the licensee did not provide complete, accurate and up-to-date procedures. Specifically, the procedure to test the residual heat removal waterleg pump did not address the potential to drain the suppression pool to the Auxiliary Building sump.

Inspection Report# : [2011003 \(pdf\)](#)

G

Significance: Dec 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedures Results in Unplanned Half Scram

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for a failure to follow plant procedures. Specifically, the licensee failed to perform a "burn-in" on a voltage regulator card, as required by Nuclear Operating Business Practice (NOBP)-ER-3399, Fleet Circuit Card and Power Supply Burn-in Guide, which failed prematurely and resulted in an unexpected half scram. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because the finding impacts the Equipment Performance attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that could upset plant stability and challenge critical safety functions during power operations. The finding was of very low safety significance because the Phase 3 analysis resulted in a minimal change in core damage frequency. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not use up-to-date work packages to assure nuclear safety. Specifically, the licensee did not update the voltage regulator card replacement work plan to include the new circuit card burn-in procedure requirement. (H.2(c))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Nov 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unexpected Recirculation Flow Control Valve Runback Due to Inadequate Work Plan

: A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an adequate work plan for replacing voltage regulator cards associated with Average Power Range Monitor (APRM) 'A'. Specifically, the work plan for APRM 'A' did not provide proper guidance to the technicians or operating crew resulting in an unexpected recirculation flow control valve (FCV) runback and subsequent required operator actions. The licensee entered the issue into their corrective action program as condition report (CR) 10-85239. As part of the corrective actions, the licensee plans to place warning placards on the outside of the APRM cabinet doors providing the proper instructions to personnel working in the cabinets.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to maintain reactor power stable. In addition, the performance deficiency impacted the Initiating Events Cornerstone attribute of procedures and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding is associated with a cross cutting aspect in the operating experience component of the Problem Identification & Resolution cross-cutting area because the licensee did not implement internal operating experience (OE) into station processes and procedures. Specifically, licensee personnel did not adequately research and identify previous plant experience regarding the impact of de-energizing the power supply to the control circuitry for APRM 'A' on other related systems contributing directly to an unplanned power transient on the reactor (P.2(b)). Inspection Report# : [2010007 \(pdf\)](#)

Mitigating Systems

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO OPERATE SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a, for failure to establish a procedure to remove power from the shutdown cooling isolation valves while shutdown cooling was in operation during a plant refueling outage. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because the risk significance was evaluated to have a delta core damage frequency of less than E-6/yr and a delta large early release frequency of less than E-7/yr. This finding was associated with a cross-cutting aspect in the Work Practices component of the Human Performance cross-cutting area per IMC 0310 (H.4(b)) because the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures. Specifically, the operators did not question operating safety-related plant equipment without appropriate procedural guidance.

Inspection Report# : [2011003 \(pdf\)](#)

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

FAILURE TO FOLLOW TECHNICAL SPECIFICATION BASES

The inspectors identified a finding of very low safety significance for failure to follow Technical Specification Limiting Condition for Operations 3.0.2 bases. The inspectors determined that the licensee rendered safety-related plant equipment inoperable and entered TS 3.6.1.3 Condition A for operational convenience. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Configuration Control attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because it does not increase the likelihood that a loss of decay heat removal, reactor coolant system inventory, or offsite power will occur and does not degrade the ability to terminate a leak path, recover decay heat removal once it is lost, or establish an alternate core cooling path if decay heat removal cannot be re established. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross-cutting area per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee chose to disable automatic protective features of a plant system while performing “high-risk” activities.

Inspection Report# : [2011003 \(pdf\)](#)

G

Significance: Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Suction and Pump Minimum Flow Valves Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non cited violation of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, for unacceptable preconditioning of the high-pressure core spray (HPCS) suction valves and the HPCS pump minimum flow valve prior to quarterly inservice testing (IST) of the same valves. The inspectors determined that a maintenance delay, which caused a shift in the scheduled performance of the quarterly pump and valve testing of the HPCS system, produced a schedule conflict that resulted in cycling of the HPCS pump suction valves less than 9 hours prior to scheduled quarterly IST of the same valves. The schedule change also caused the HPCS pump minimum flow valve to be cycled less than 26 hours prior to the eventual IST of that valve. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety related risk-significant equipment, and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Work Control component of the Human Performance cross-cutting area because the licensee did not properly evaluate work week schedule changes with regard to the impact on other scheduled work. Specifically, the licensee did not reschedule work in a manner which prevented preconditioning of the HPCS suction and pump minimum flow valves. (H.3(b))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Valve Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a, for failure to establish an adequate procedure to test the high-pressure core spray (HPCS) test return valve to the suppression pool. The inspectors determined that the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, which constituted unacceptable preconditioning. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more

significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety-related risk-significant equipment and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution cross-cutting area because the licensee did not implement industry operating experience into station processes and procedures. Specifically, the licensee did not update or revise the surveillance test to prevent unacceptable preconditioning of the valve. (P.2(b))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate System Functionality of Control Room Breathing Air

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to evaluate and maintain functionality assessments for the main control room emergency breathing air system, which is described in the Updated Safety Analysis Report (USAR). The inspectors determined that the leakage rate that existed on the control room breathing air system exceeded the allowed leakage rate for the system to maintain functionality from July through September 2010, as evaluated by a licensee engineering evaluation completed on December 16, 2010. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because it is similar to example 4.d of IMC 0612, Appendix E, Examples of Minor Issues, and would significantly impact the operators' ability to shutdown the reactor from the main control room using the breathing air system. In addition, the performance deficiency impacts the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification allowable outage time, did not result in a loss of function of non safety related risk-significant equipment and was not risk-significant due to external events. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not maintain a system described in the USAR in a condition that would allow it to meet its described function. Specifically, operators would not be able to remain in the main control room using breathing air for the required time prescribed by the system description in the USAR due to excessive leakage from a system relief valve. (H.2(d))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

UNACCEPTABLE PRECONDITION OF RHR VALVE PRIOR TO ASME IN-SERVICE TESTING

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion XI, Test Control, for the unacceptable preconditioning of the 'A' residual heat removal (RHR) pump minimum flow valve prior to quarterly in-service testing. Specifically, the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, and had not previously performed an evaluation assessing the sequence for preconditioning. The licensee entered the issue into their corrective action program.

The inspectors determined that unacceptably preconditioning the RHR minimum flow valve was a performance deficiency that affected the Mitigating Systems Cornerstone because it can mask the true as-found condition of a component designed to mitigate accidents. The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification (TS)-allowable outage

time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross-cutting aspect in the work control planning component of the Human Performance area (per IMC 0310 H.3(a)), because the licensee did not appropriately plan work activities for plant structures, systems, and components. Specifically, the licensee did not schedule the surveillance tests in the proper sequence to prevent unacceptable preconditioning of the valve.

Inspection Report# : [2010004 \(pdf\)](#)

G

Significance: G Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION LCOS WHEN REACTOR VESSEL LEVEL INSTRUMENTS WERE DECLARED INOPERABLE

The inspectors identified a finding of very low safety significance and associated NCV for a failure to comply with TS 3.0.2 by not entering TS Limiting Condition for Operation (LCO) 3.3.5.1 Condition A and TS LCO 3.3.6.1 Condition A when required. The inspectors determined that the licensee incorrectly utilized a TS Surveillance Requirement Note that allows a delay in entering the Conditions and Required Actions for the given TS LCO. As a result, the licensee failed to correctly enter the Conditions and Required Actions when reactor level instruments were declared inoperable to perform testing in support of planned maintenance. The licensee entered the issue associated with the failure to comply with TS into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Equipment Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage); and if left uncorrected it could lead to a more significant safety concern. This finding is of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its TS-allowable outage time, did not result in a loss of function of nonsafety-related risk-significant equipment and was not risk significant due to external events. This finding has a cross cutting aspect in the decision making component of Human Performance cross cutting area (per IMC 0310 H.1(b)), because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee incorrectly used the TS Surveillance Requirement Note to satisfy maintenance requirements.

Inspection Report# : [2010004 \(pdf\)](#)

G

Significance: G Aug 03, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Effectively Manage, Prioritize and Disposition Numerous Operations Procedures Document Change Requests (DCRs) Notifications

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a for the licensee's failure to maintain written procedures covering "General Plant Operating Procedures," "Procedures for Startup, Operation and Shutdown of Safety-Related BWR Systems," and "Procedures for Combating Emergencies and Other Significant Events," as required by the Technical Specifications. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing design change requests (DCRs). The DCRs documented operations procedure issues/discrepancies identified by plant operators during plant operation activities under normal, abnormal, emergency and shutdown conditions. The licensee entered this finding into their corrective action program (CR10 79187) and performed a cause analysis evaluation to identify the causes and determine potential impact on plant operations.

The finding was more than minor in accordance with IMC 0612, Appendix B because the finding was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee's failure to maintain the operations procedures up to date could have complicated and prolonged operator response during plant operation activities under normal, abnormal, and emergency conditions. The finding was of very low safety significance based on a Phase 1 screening in

accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a.

This finding had a cross cutting aspect in the area of human performance, resources because the licensee did not provide complete, accurate, and up-to-date operations procedures to plant personnel. Specifically, the licensee failed to effectively manage, prioritize and disposition numerous long-standing DCRs. The DCRs documented procedure changes to be incorporated into plant procedures that were used during plant operation activities under normal, abnormal, emergency and shutdown conditions. [H.2(c)] (Section 1R17.1b.(1))

Inspection Report# : [2010006 \(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

G

Significance: May 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient detail in work instructions when retracting a Source Range Monitor. (Section 4OA5.6)

The NRC identified a finding of very low safety significance and a non-cited violation (NCV) of regulatory requirements contained in TS 5.4. "Procedures." Specifically, the licensee had insufficient detail in its instructions to workers, to ensure that the SRM-C cable take-up cartridge was installed correctly. Additionally, the workers failed to follow procedure in removing a nominal nine feet of excess SRM detector cable. The licensee entered this issue into its corrective action program (CAP) as CR 11-93247.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because if left uncorrected the performance deficiency had the potential to lead to a more significant safety concern. Therefore, the performance deficiency was a finding. The finding did not involve ALARA, did not involve an overexposure or a substantial potential for an overexposure, and did not compromise the licensee's ability to access dose. Consequently, the inspectors concluded that the finding was of very low safety significance (Green). The finding was also a non-cited violation (NCV) of regulatory requirements contained in Technical Specification 5.4. "Procedures." The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of work practices, in that, work instructions lacked sufficient detail to ensure appropriate radiological controls were in place and the licensee did not ensure that personnel followed procedures (H.4. b). (Section 4OA5.6)

Inspection Report# : [2011013 \(pdf\)](#)

W

Significance: May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to

appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
 - b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.
- A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

Inspection Report# : [2011013](#) (pdf)

G

Significance: Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Establish Radiological Conditions in a Locked HRA [i.e., the fuel pool cooling and cleanup (FPCC) Heat Exchanger Room] Prior to Allowing Personnel Access.

A finding of very low safety significance and an associated NCV of Technical Specifications (TS) 5.7.2 was self-revealed following the licensee's failure to adequately identify the radiological conditions in the fuel pool cooling and cleanup (FPCC) heat exchanger room prior to a pre-job brief for work in the room and prior to workers entering the room. Specifically, on November 19, 2010, operators involved in tag out activities for a valve encountered elevated dose rates when they entered an un surveyed area on the back side of the FPCC heat exchanger. At the time the FPCC room was controlled as a locked high radiation area (HRA). While entering the area one of the operators received an electronic dosimeter (ED) dose rate alarm of 1500 mRem/hr. Follow-up surveys determined that the highest dose rate in the area entered was 2000 mrem/hr. As part of the licensee's corrective actions, lessons learned were shared with the radiation protection (RP) staff to address survey and briefing inadequacies. Additional performance management actions were implemented by the station.

The inspectors determined that the licensee's failure to adequately identify the radiological conditions in the room prior to workers entering the work area was a performance deficiency. The inspectors determined that the finding was more than minor because the inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the finding; the workers were not made aware of the radiological conditions before entry into the area on the back side of the FPCC heat exchanger. Additionally, the finding impacted the program and process attribute of the Occupational Radiation Safety Cornerstone by adversely affecting the cornerstone objective of ensuring adequate protection of

worker health and safety from exposure to radiation in that workers' entry into areas, without knowledge of the radiological conditions, placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the performance deficiency was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross-cutting component in the human performance area of work practices in that the work crew proceeded in the face of uncertainty when unexpected circumstances were encountered in the FPCC heat exchanger room. [H.4(a)]

Inspection Report# : [2011002 \(pdf\)](#)

Public Radiation Safety

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Significance: Nov 30, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Procedure when Completing Regulatory Applicability Form for a New WARF, RISB, and OSSC Procedure

A finding of very low safety significance was identified by the inspectors for the licensee's failure to follow procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines, when a new procedure was written and implemented describing the operation of the waste abatement reclamation facility (WARF), radioactive interim storage facility (RISB), and on-site storage and container yard (OSSC). Specifically, the determination that new procedure HPI-K0009, "Operation of the WARF, RISB and OSSC Yard," was a managerial or administrative change and, therefore, the 50.59 process was not applicable, did not comply with the direction provided in Section 1.1 of NOBP-LP-4003A. As a result, the differences in the use of these facilities as specified in Procedure HPI-K0009, with their design basis and USAR descriptions were not identified and evaluated. The licensee has rescinded this procedure until the regulatory evaluation is completed.

The finding was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program/process and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix D, "Public Radiation Safety," to assess its significance. The inspectors determined that the finding did not involve radioactive material control, there was not a substantial failure to implement the radiological effluent program, and public dose was less than criteria in 10 CFR Part 50, Appendix I, and 10 CFR 20.1301. This finding is associated with a cross-cutting aspect in the resources component of the human performance cross cutting area because the licensee did not ensure complete, accurate, and up-to-date design documentation and procedures are available. Specifically, there were eleven instances where issues related to operating the WARF, RISB, and OSSC outside of their design bases were identified since 2000 and no actions to correct these issues were developed until 2010, when a procedure was issued (H.2(c)).

Inspection Report# : [2010007 \(pdf\)](#)

Significance: SL-IV Jul 16, 2010

Identified By: NRC

Item Type: VIO Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - traditional enforcement portion - traditional enforcement portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

The significance of the violation was assessed using Traditional Enforcement because it was determined to be willful. A Severity Level IV violation was determined to be appropriate because the incident had more than minor safety significance given that the technician was radioactively contaminated and departed the site. The violation was cited

since it was willful and because the licensee failed to: (1) timely and appropriately respond to the incident; (2) adequately assess the potential for offsite contamination; and (3) take corrective action to ensure against recurrence.

The associated Performance Deficiency is item 2010-008-02.

Inspection Report# : [2010008 \(pdf\)](#)

G

Significance: Jul 01, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Deliberate Failure to Follow Portal Monitor Use Procedure - Performance Deficiency portion.

A willful violation was identified through an OI Investigation for the failure to comply with the procedure that governed portal radiation monitor usage. Specifically, a contract radiation protection technician deliberately violated a radiation protection procedure when the technician exited the Perry site without authorization from radiation protection supervision following three consecutive portal monitor alarms at the personal access facility.

Failure to follow this procedure represents a performance deficiency. The issue had more than minor safety significance because the RPT was radioactively contaminated and departed the site. The inspectors determined that no cross-cutting components applied to this issue, because the underlying performance issue was the same as the performance deficiency (Failure to follow procedure).

The Traditional Enforcement portion of this issue is tracked as item 2010-008-01.

Inspection Report# : [2010008 \(pdf\)](#)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : October 14, 2011

Perry 1

3Q/2011 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY EXPECTED EFFECTS RESULTS IN OVERFLOWING THE AUXILIARY BUILDING SUMP

A finding of very low safety significance and associated NCV of Technical Specification 5.4.1 was self-revealed for the licensee's failure to follow plant procedures. The inspectors determined that the licensee failed to follow a procedure which requires verification of expected effects when operating plant components. This failure led to draining approximately 15,000 gallons of suppression pool water which overflowed the Auxiliary Building sump and caused the spread of contamination to various areas of the Auxiliary Building. The licensee entered the issue into their corrective action program. Immediate actions included securing all sources of water to the Auxiliary Building sump and removing water from the Auxiliary Building.

This performance deficiency was determined to be more than minor because it impacted the Human Performance attribute of the Initiating Events cornerstone, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is of very low safety significance because it did not increase the likelihood of a loss of reactor coolant system inventory, degrade the licensee's ability to terminate a leak path or add inventory, or degrade the licensee's ability to recover decay heat removal. The finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area per IMC 0310 (H.2(c)), because the licensee did not provide complete, accurate and up-to-date procedures. Specifically, the procedure to test the residual heat removal waterleg pump did not address the potential to drain the suppression pool to the Auxiliary Building sump.

Inspection Report# : [2011003 \(pdf\)](#)

G

Significance: Dec 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedures Results in Unplanned Half Scram

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for a failure to follow plant procedures. Specifically, the licensee failed to perform a "burn-in" on a voltage regulator card, as required by Nuclear Operating Business Practice (NOBP)-ER-3399, Fleet Circuit Card and Power Supply Burn-in Guide, which failed prematurely and resulted in an unexpected half scram. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because the finding impacts the Equipment Performance attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that could upset plant stability and challenge critical safety functions during power operations. The finding was of very low safety significance because the Phase 3 analysis resulted in a minimal change in core damage frequency. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not use up-to-date work packages to assure nuclear safety. Specifically, the licensee did not update the voltage regulator card replacement work plan to include the new circuit card burn-in procedure requirement. (H.2(c))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: Nov 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unexpected Recirculation Flow Control Valve Runback Due to Inadequate Work Plan

: A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to have an adequate work plan for replacing voltage regulator cards associated with Average Power Range Monitor (APRM) 'A'. Specifically, the work plan for APRM 'A' did not provide proper guidance to the technicians or operating crew resulting in an unexpected recirculation flow control valve (FCV) runback and subsequent required operator actions. The licensee entered the issue into their corrective action program as condition report (CR) 10-85239. As part of the corrective actions, the licensee plans to place warning placards on the outside of the APRM cabinet doors providing the proper instructions to personnel working in the cabinets.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to maintain reactor power stable. In addition, the performance deficiency impacted the Initiating Events Cornerstone attribute of procedures and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events cornerstone. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding is associated with a cross cutting aspect in the operating experience component of the Problem Identification & Resolution cross-cutting area because the licensee did not implement internal operating experience (OE) into station processes and procedures. Specifically, licensee personnel did not adequately research and identify previous plant experience regarding the impact of de-energizing the power supply to the control circuitry for APRM 'A' on other related systems contributing directly to an unplanned power transient on the reactor (P.2(b)).
Inspection Report# : [2010007 \(pdf\)](#)

Mitigating Systems

G

Significance: Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING 'A' ESW PUMP MAINTENANCE ACTIVITIES

A self-revealed finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR 50.65 (a)(4) was apparent in the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition during maintenance on the 'A' emergency service water (ESW) pump when the pump packing gland follower was replaced following a packing replacement. Specifically, there was a 45 minute period of time that the licensee's declared plant risk was in a GREEN status before the pump was retested and found to be unreliable for long term operations and the plant risk was returned to YELLOW status. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612 Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was $< 1E-6$. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform the post-maintenance test to verify that the 'A' ESW pump was available prior to lowering declared plant risk. (H.1(b)) (Section 1R13)
Inspection Report# : [2011004 \(pdf\)](#)

G

Significance: Jul 08, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Emergency Service Water System Piping did not meet ASME Code Requirements (Section 4OA5)

A finding of very low safety significance and an associated non-cited violation of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to perform an adequate evaluation for Emergency Service Water (ESW) system piping. Specifically, the inspectors identified that the licensee had not evaluated all design and licensing basis loads and load combinations in accordance with Seismic Category I and American Society of Mechanical Engineers (ASME) code requirements. The licensee documented the corrective actions in CR10-86678 and CR11-88800.

The inspectors determined that the performance deficiency affected the Mitigating Systems Cornerstone. The inspectors compared this performance deficiency to the minor questions of IMC 0612, Appendix B, "Issue Screening," dated December 24, 2009, and the inspectors determined that this finding was more than minor because, if left uncorrected, the failure to perform an adequate evaluation of the ESW system piping would have the potential to become a more significant safety concern. Absent NRC intervention, the licensee would not have performed the evaluation of the Vertical Cask Transporter (VCT) load in combination with seismic load as well as other design basis loads which would have placed the piping in a potential overstress condition leading to a permanent deformation of the piping where the system would not be able to perform its safety function and it would become a more significant safety concern. Specifically, compliance with Seismic Category I and ASME code requirements was to ensure structural integrity of the ESW piping during a design basis event. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 -- Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors answered "yes" to the question of is the finding a design qualification deficiency confirmed not to result in loss of operability or functionality in the Mitigating Systems column based on the licensee revising design calculations and initiated modifications where necessary to demonstrate compliance and concluded that the finding was of very low safety-significance (Green). The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding. The licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have effective oversight of design calculation and documentation for demonstrating ASME code compliance of the ESW system piping. [H.4(c)] (Section 4OA5)

Inspection Report# : [2011009 \(pdf\)](#)

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO OPERATE SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a, for failure to establish a procedure to remove power from the shutdown cooling isolation valves while shutdown cooling was in operation during a plant refueling outage. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because the risk significance was evaluated to have a delta core damage frequency of less than E-6/yr and a delta large early release frequency of less than E-7/yr. This finding was associated with a cross-cutting aspect in the Work Practices component of the Human Performance cross-cutting area per IMC 0310 (H.4(b)) because the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures. Specifically, the operators did not question operating safety-related plant equipment without appropriate procedural guidance.

Inspection Report# : [2011003 \(pdf\)](#)

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

FAILURE TO FOLLOW TECHNICAL SPECIFICATION BASES

The inspectors identified a finding of very low safety significance for failure to follow Technical Specification Limiting Condition for Operations 3.0.2 bases. The inspectors determined that the licensee rendered safety-related plant equipment inoperable and entered TS 3.6.1.3 Condition A for operational convenience. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Configuration Control attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because it does not increase the likelihood that a loss of decay heat removal, reactor coolant system inventory, or offsite power will occur and does not degrade the ability to terminate a leak path, recover decay heat removal once it is lost, or establish an alternate core cooling path if decay heat removal cannot be re established. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross-cutting area per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee chose to disable automatic protective features of a plant system while performing “high-risk” activities.

Inspection Report# : [2011003 \(pdf\)](#)

G

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Suction and Pump Minimum Flow Valves Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non cited violation of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, for unacceptable preconditioning of the high-pressure core spray (HPCS) suction valves and the HPCS pump minimum flow valve prior to quarterly inservice testing (IST) of the same valves. The inspectors determined that a maintenance delay, which caused a shift in the scheduled performance of the quarterly pump and valve testing of the HPCS system, produced a schedule conflict that resulted in cycling of the HPCS pump suction valves less than 9 hours prior to scheduled quarterly IST of the same valves. The schedule change also caused the HPCS pump minimum flow valve to be cycled less than 26 hours prior to the eventual IST of that valve. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety related risk-significant equipment, and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Work Control component of the Human Performance cross-cutting area because the licensee did not properly evaluate work week schedule changes with regard to the impact on other scheduled work. Specifically, the licensee did not reschedule work in a manner which prevented preconditioning of the HPCS suction and pump minimum flow valves. (H.3(b))

Inspection Report# : [2010005 \(pdf\)](#)

G

Significance: G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of HPCS Valve Prior to ASME Inservice Testing

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a, for failure to establish an adequate procedure to test the high-pressure core spray (HPCS) test return valve to the suppression pool. The inspectors determined that the licensee performed a surveillance that cycled the valve prior to performing stroke time testing, which constituted unacceptable preconditioning. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could lead to a more significant safety concern. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification-allowable outage time, did not result in a loss of function of non safety-related risk-significant equipment and was not risk significant due to external events. This finding was associated with a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution cross-cutting area because the licensee did not implement industry operating experience into station processes and procedures. Specifically, the licensee did not update or revise the surveillance test to prevent unacceptable preconditioning of the valve. (P.2(b))

Inspection Report# : [2010005](#) ([pdf](#))

G

Significance: Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate System Functionality of Control Room Breathing Air

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to evaluate and maintain functionality assessments for the main control room emergency breathing air system, which is described in the Updated Safety Analysis Report (USAR). The inspectors determined that the leakage rate that existed on the control room breathing air system exceeded the allowed leakage rate for the system to maintain functionality from July through September 2010, as evaluated by a licensee engineering evaluation completed on December 16, 2010. The licensee entered the issue into their corrective action program.

The performance deficiency was determined to be more than minor because it is similar to example 4.d of IMC 0612, Appendix E, Examples of Minor Issues, and would significantly impact the operators' ability to shutdown the reactor from the main control room using the breathing air system. In addition, the performance deficiency impacts the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because it was not a design/qualification deficiency, did not represent a loss of system safety function, did not result in a loss of function of a single train for greater than its Technical Specification allowable outage time, did not result in a loss of function of non safety related risk-significant equipment and was not risk-significant due to external events. This finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee did not maintain a system described in the USAR in a condition that would allow it to meet its described function. Specifically, operators would not be able to remain in the main control room using breathing air for the required time prescribed by the system description in the USAR due to excessive leakage from a system relief valve. (H.2(d))

Inspection Report# : [2010005](#) ([pdf](#))

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY RADIOLOGICAL CONDITIONS PRIOR TO ENTERING HIGH RADIATION AREAS

The inspectors reviewed a self-revealed finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 for the failure of workers to comply with established radiological protective measures as specified for entry into and work within high radiation areas. The issue has been entered into the licensee's corrective action program as condition reports (CR) 11-93976 and CR 11-94374. Corrective actions were implemented to address personal accountability and evaluate the need for procedure improvements.

The inspectors reviewed the guidance in IMC 0612 Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(h) in the guidance document. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low-As-Is-Reasonably-Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in the component of the corrective action program in that the licensee failed to take the appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee had previously identified issues with the effectiveness of radiological briefs for access to high radiation areas on four recent occasions. (P.1(d)) (Section 2RS1)

Inspection Report# : [2011004 \(pdf\)](#)

G

Significance: G Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ACCURATELY ASSESS OCCUPATIONAL DOSE

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1201(c) for the failure to accurately assess occupational dose specific to effective dose equivalent (EDE) determinations. The issue has been entered into the licensee's CAP as CR 11-02336. Corrective actions included a review of applicable guidance and revisions to applicable procedures.

The inspectors reviewed the guidance in IMC 0612 and determined that the finding was more than minor because it was associated with the program and process attribute of occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that inaccurate radiation monitoring affects the licensee's ability to control and limit radiation exposures. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety-significance because the finding did not involve: (1) ALARA planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of human performance in the component of resources. Specifically, licensee did not provide complete and accurate procedures to the radiation safety staff. (H.2 (c)) (Section 2RS4)

Inspection Report# : [2011004 \(pdf\)](#)

Significance: SL-IV Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION

The inspectors identified a NCV of 10 CFR 50.9(a), "Completeness and Accuracy of Information," that occurred when the licensee failed to report an Occupational Radiation Safety Performance Indicator (PI) occurrence to reflect an individual entering on April 22, 2011, a locked high radiation area in the drywell under vessel area without the appropriate radiological controls in place. The issue was entered into the licensee's CAP as CR 11-00473. Corrective actions included the licensee submitting corrected occupational radiation safety PI data to the NRC.

Violations of 10 CFR 50.9 that potentially impede or impact the regulatory process are dispositioned using traditional enforcement. The inspectors concluded that the licensee had reasonable opportunity to foresee and correct the inaccurate information prior to the initial information being submitted to the NRC. This violation is characterized as a

Severity Level (SL) IV violation because it is similar to Example 6.9.d.11 of the NRC Enforcement Policy, and is consistent with Section 2.2.1.c, in that the violation impacted the regulatory process. The violation was not repetitive or willful. The significance of the performance deficiency associated with the under vessel entry was previously reviewed by the inspectors and dispositioned in IR 05000440/2011013. As such, no ROP finding and no cross-cutting aspect was assigned in this report. (Section 4OA1)

The associated performance deficiency is tracked as item 2011-013-02.

Inspection Report# : [2011004](#) (pdf)

G

Significance: May 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient detail in work instructions when retracting a Source Range Monitor. (Section 4OA5.6)

The NRC identified a finding of very low safety significance and a non-cited violation (NCV) of regulatory requirements contained in TS 5.4. "Procedures." Specifically, the licensee had insufficient detail in its instructions to workers, to ensure that the SRM-C cable take-up cartridge was installed correctly. Additionally, the workers failed to follow procedure in removing a nominal nine feet of excess SRM detector cable. The licensee entered this issue into its corrective action program (CAP) as CR 11-93247.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because if left uncorrected the performance deficiency had the potential to lead to a more significant safety concern. Therefore, the performance deficiency was a finding. The finding did not involve ALARA, did not involve an overexposure or a substantial potential for an overexposure, and did not compromise the licensee's ability to access dose. Consequently, the inspectors concluded that the finding was of very low safety significance (Green). The finding was also a non-cited violation (NCV) of regulatory requirements contained in Technical Specification 5.4. "Procedures." The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of work practices, in that, work instructions lacked sufficient detail to ensure appropriate radiological controls were in place and the licensee did not ensure that personnel followed procedures (H.4. b). (Section 4OA5.6)

Inspection Report# : [2011013](#) (pdf)

W

Significance: May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high

radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
- b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained

steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013](#) (pdf)

G

Significance: Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Establish Radiological Conditions in a Locked HRA [i.e., the fuel pool cooling and cleanup (FPCC) Heat Exchanger Room] Prior to Allowing Personnel Access.

A finding of very low safety significance and an associated NCV of Technical Specifications (TS) 5.7.2 was self-revealed following the licensee's failure to adequately identify the radiological conditions in the fuel pool cooling and cleanup (FPCC) heat exchanger room prior to a pre-job brief for work in the room and prior to workers entering the room. Specifically, on November 19, 2010, operators involved in tag out activities for a valve encountered elevated dose rates when they entered an un surveyed area on the back side of the FPCC heat exchanger. At the time the FPCC room was controlled as a locked high radiation area (HRA). While entering the area one of the operators received an electronic dosimeter (ED) dose rate alarm of 1500 mRem/hr. Follow-up surveys determined that the highest dose rate in the area entered was 2000 mrem/hr. As part of the licensee's corrective actions, lessons learned were shared with the radiation protection (RP) staff to address survey and briefing inadequacies. Additional performance management actions were implemented by the station.

The inspectors determined that the licensee's failure to adequately identify the radiological conditions in the room prior to workers entering the work area was a performance deficiency. The inspectors determined that the finding was more than minor because the inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the finding; the workers were not made aware of the radiological conditions before entry into the area on the back side of the FPCC heat exchanger. Additionally, the finding impacted the program and process attribute of the Occupational Radiation Safety Cornerstone by adversely affecting the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation in that workers' entry into areas, without knowledge of the radiological conditions, placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the performance deficiency was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross-cutting component in the human performance area of work practices in that the work crew proceeded in the face of uncertainty when unexpected circumstances were encountered in the FPCC heat exchanger room. [H.4(a)]

Inspection Report# : [2011002](#) (pdf)

Public Radiation Safety

G

Significance: Nov 30, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Procedure when Completing Regulatory Applicability Form for a New WARF, RISB, and OSSC Procedure

A finding of very low safety significance was identified by the inspectors for the licensee's failure to follow procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines, when a new procedure was written and implemented describing the operation of the waste abatement reclamation facility (WARF), radioactive interim storage facility (RISB), and on-site storage and container yard (OSSC). Specifically, the determination that new procedure HPI-K0009, "Operation of the WARF, RISB and OSSC Yard," was a managerial or administrative change and, therefore, the 50.59 process was not applicable, did not comply with the direction provided in Section 1.1 of NOBP-LP-4003A. As a result, the differences in the use of these facilities as specified in Procedure HPI-K0009, with their design basis and USAR descriptions were not identified and evaluated. The licensee has rescinded this procedure until the regulatory evaluation is completed.

The finding was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program/process and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix D, "Public Radiation Safety," to assess its significance. The inspectors determined that the finding did not involve radioactive material control, there was not a substantial failure to implement the radiological effluent program, and public dose was less than criteria in 10 CFR Part 50, Appendix I, and 10 CFR 20.1301. This finding is associated with a cross-cutting aspect in the resources component of the human performance cross cutting area because the licensee did not ensure complete, accurate, and up-to-date design documentation and procedures are available. Specifically, there were eleven instances where issues related to operating the WARF, RISB, and OSSC outside of their design bases were identified since 2000 and no actions to correct these issues were developed until 2010, when a procedure was issued (H.2(c)).

Inspection Report# : [2010007 \(pdf\)](#)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : January 04, 2012

Perry 1

4Q/2011 Plant Inspection Findings

Initiating Events

Significance: SL-IV Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G**Significance:** G Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Protect Safety Related Equipment from Internal Flooding

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to ensure safety-related equipment would be adequately protected from internal flooding. Specifically, the licensee failed to adequately evaluate the volume of water originating from a postulated crack in service water (SW) piping within the control complex. This finding was entered into the licensee's corrective action program. The corrective actions included performing additional analyses, establishing compensatory measures, issuing procedure orders, and revising operating procedures.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Events cornerstone attribute of Equipment Performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase III Analysis, the inspectors determined the finding was of very low safety significance (Green). The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011008 \(pdf\)](#)**Significance: SL-IV** Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Report Unanalyzed Condition Related to Internal Flooding

The inspectors identified a Severity Level IV violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Reactors," for failure to report within eight hours an unanalyzed condition that significantly degrades plant safety. Specifically, the licensee failed to notify NRC upon discovery of a postulated internal flood in the control complex could result in loss of single failure capability of safety-related equipment. This violation was entered into the licensee's corrective action program.

The performance deficiency was determined to involve a traditional enforcement violation because it potentially impeded or impacted the regulatory process. The traditional enforcement violation was determined to be more than minor because the information that was not provided through the event notification had a material impact on safety and licensed activities. The traditional enforcement violation was determined to be a Severity Level IV violation because the failure to report within eight hours an unanalyzed condition did not result in an unacceptable change to the facility or procedures. An evaluation for cross-cutting aspect was not applicable because this was a traditional enforcement violation.

Inspection Report# : [2011008 \(pdf\)](#)**G****Significance:** G Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY EXPECTED EFFECTS RESULTS IN OVERFLOWING THE AUXILIARY BUILDING SUMP

A finding of very low safety significance and associated NCV of Technical Specification 5.4.1 was self-revealed for the licensee's failure to follow plant procedures. The inspectors determined that the licensee failed to follow a procedure which requires verification of expected effects when operating plant components. This failure led to draining approximately 15,000 gallons of suppression pool water which overflowed the Auxiliary Building sump and caused the spread of contamination to various areas of the Auxiliary Building. The licensee entered the issue into their corrective action program. Immediate actions included securing all sources of water to the Auxiliary Building sump and removing water from the Auxiliary Building.

This performance deficiency was determined to be more than minor because it impacted the Human Performance attribute of the Initiating Events cornerstone, and adversely affected the cornerstone objective of limiting the

likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is of very low safety significance because it did not increase the likelihood of a loss of reactor coolant system inventory, degrade the licensee's ability to terminate a leak path or add inventory, or degrade the licensee's ability to recover decay heat removal. The finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area per IMC 0310 (H.2(c)), because the licensee did not provide complete, accurate and up-to-date procedures. Specifically, the procedure to test the residual heat removal waterleg pump did not address the potential to drain the suppression pool to the Auxiliary Building sump.

Inspection Report# : [2011003 \(pdf\)](#)

Mitigating Systems

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO PERFORM MAINTENANCE ON SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of TS 5.4.1.a for failure to implement a maintenance procedure for safety-related equipment required by Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)." Specifically, the licensee performed an internal inspection on the 'B' train of the annulus exhaust gas treatment system (AEGTS) rendering the train inoperable. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program as condition report (CR) 2011-05530.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as very low safety significance (Green) by answering 'no' to questions in the Mitigating Systems column of IMC 0609, Attachment 4, Table 4a, since the remaining train of AEGTS was operable and did not result in a loss of function for the impacted components, and the inoperable train was not inoperable for longer than allowed by TS. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross cutting area because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee did not evaluate the impact of performing the internal inspection on the operability of the system and utilized an operator to take action if the system was called upon to perform its design function.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

DIESEL GENERATOR ROOM'S FIRE PROTECTION SYSTEM CONCERN

The inspectors identified a finding of very low safety significance and associated NCV of License Condition 2.C.6 for the failure to install heat detectors in the emergency diesel generator (EDG) rooms in accordance with their listed approval. Specifically, the detectors were installed at a height of 24 feet, which was in excess of approved ceiling height without appropriate reduction of spacing for ceiling height. The licensee entered the issue into their corrective action program as CR 2011-06242 and planned to evaluate modifications to address the issue.

The finding was determined to be more than minor because the failure to install heat detectors in accordance with their listed approval was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the high installation height for the detectors without appropriate reduced detector spacing would result in requiring a larger fire and a delay in carbon dioxide system actuation. This finding was of very low safety significance using IMC 0609, Appendix F, "Fire

Protection Significance Determination Process," because a fire involving an EDG would only affect the EDG involved in the fire due to the substantive fire barriers between the EDG rooms. The evaluated conditions were not significant risk contributors. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Control Circuit Voltage Calculation for Safety-Related Motor Starter Contactors

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control", for failure to adequately evaluate the capability of motor control starter contactors to operate during design basis degraded voltage conditions. Specifically, the licensee did not analyze all circuit elements of resistance and failed to incorporate the latest results of calculated plant bus voltages.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, the licensee performed an operability evaluation taking into account all resistances in the circuit, the latest load flow analysis and test data and concluded there was sufficient voltage available. This finding has a cross-cutting aspect in the area of Resources for failure to ensure complete, accurate, and up-to-date design documentation, procedures, work packages and correct labeling of components.

Inspection Report# : [2011008 \(pdf\)](#)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Test Safety-Related Contactors at Degraded Voltage Conditions

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to test safety-related motor starter contactors at design basis conditions. Specifically, the licensee failed to demonstrate the ability of ESW Pump 'A' discharge valve 1P45F0130A motor starter contactor to operate at minimum pickup voltage during design basis degraded voltage conditions. This finding was entered into the licensee's corrective action program.

The performance deficiency was determined to be more than minor because if left uncorrected it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, after further evaluation, the licensee's engineering staff concluded the issue did not impact current operability because periodic testing for other type of contactors provided validation the valve motor contactor would operate when required for the postulated degraded voltage conditions. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution Corrective Action Program for failure to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2011008 \(pdf\)](#)

G

Significance: Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING 'A' ESW PUMP MAINTENANCE ACTIVITIES

A self-revealed finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR 50.65 (a)(4) was apparent in the licensee's failure to accurately assess plant risk during maintenance activities. The

inspectors determined that the licensee failed to correctly identify the plant risk condition during maintenance on the 'A' emergency service water (ESW) pump when the pump packing gland follower was replaced following a packing replacement. Specifically, there was a 45 minute period of time that the licensee's declared plant risk was in a GREEN status before the pump was retested and found to be unreliable for long term operations and the plant risk was returned to YELLOW status. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612 Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was < 1E-6. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform the post-maintenance test to verify that the 'A' ESW pump was available prior to lowering declared plant risk. (H.1(b)) (Section 1R13)

Inspection Report# : [2011004](#) (pdf)

G

Significance: Jul 08, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Emergency Service Water System Piping did not meet ASME Code Requirements (Section 4OA5)

A finding of very low safety significance and an associated non-cited violation of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to perform an adequate evaluation for Emergency Service Water (ESW) system piping. Specifically, the inspectors identified that the licensee had not evaluated all design and licensing basis loads and load combinations in accordance with Seismic Category I and American Society of Mechanical Engineers (ASME) code requirements. The licensee documented the corrective actions in CR10-86678 and CR11-88800.

The inspectors determined that the performance deficiency affected the Mitigating Systems Cornerstone. The inspectors compared this performance deficiency to the minor questions of IMC 0612, Appendix B, "Issue Screening," dated December 24, 2009, and the inspectors determined that this finding was more than minor because, if left uncorrected, the failure to perform an adequate evaluation of the ESW system piping would have the potential to become a more significant safety concern. Absent NRC intervention, the licensee would not have performed the evaluation of the Vertical Cask Transporter (VCT) load in combination with seismic load as well as other design basis loads which would have placed the piping in a potential overstress condition leading to a permanent deformation of the piping where the system would not be able to perform its safety function and it would become a more significant safety concern. Specifically, compliance with Seismic Category I and ASME code requirements was to ensure structural integrity of the ESW piping during a design basis event. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 -- Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors answered "yes" to the question of is the finding a design qualification deficiency confirmed not to result in loss of operability or functionality in the Mitigating Systems column based on the licensee revising design calculations and initiated modifications where necessary to demonstrate compliance and concluded that the finding was of very low safety-significance (Green). The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding. The licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have effective oversight of design calculation and documentation for demonstrating ASME code compliance of the ESW system piping. [H.4(c)] (Section 4OA5)

Inspection Report# : [2011009](#) (pdf)

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO OPERATE SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification

5.4.1.a, for failure to establish a procedure to remove power from the shutdown cooling isolation valves while shutdown cooling was in operation during a plant refueling outage. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because the risk significance was evaluated to have a delta core damage frequency of less than E-6/yr and a delta large early release frequency of less than E-7/yr. This finding was associated with a cross-cutting aspect in the Work Practices component of the Human Performance cross-cutting area per IMC 0310 (H.4(b)) because the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures. Specifically, the operators did not question operating safety-related plant equipment without appropriate procedural guidance.

Inspection Report# : [2011003](#) ([pdf](#))

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

FAILURE TO FOLLOW TECHNICAL SPECIFICATION BASES

The inspectors identified a finding of very low safety significance for failure to follow Technical Specification Limiting Condition for Operations 3.0.2 bases. The inspectors determined that the licensee rendered safety-related plant equipment inoperable and entered TS 3.6.1.3 Condition A for operational convenience. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Configuration Control attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because it does not increase the likelihood that a loss of decay heat removal, reactor coolant system inventory, or offsite power will occur and does not degrade the ability to terminate a leak path, recover decay heat removal once it is lost, or establish an alternate core cooling path if decay heat removal cannot be re established. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross-cutting area per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee chose to disable automatic protective features of a plant system while performing “high-risk” activities.

Inspection Report# : [2011003](#) ([pdf](#))

Barrier Integrity

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE EVALUATION OF CRANE SUPPORT STRUCTURE ELEMENTS

A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for failure to provide adequate design control measures for crane support structure elements which included bridge crane rail, bridge crane rail clips, bridge crane rail clip studs, leveling plate and leveling plate anchors. Specifically, for evaluation of these structural elements, the licensee failed to demonstrate Seismic Category I compliance in accordance with their design and licensing basis and failed to evaluate the structural elements for resulting reaction forces from the Fuel Handling Building crane. The licensee documented these issues in CRs 11-88791; 11-90252; 10 86582; and 11-04124.

The performance deficiency was determined to be more than minor because if left uncorrected the performance

deficiency could lead to a more significant safety concern if independent spent fuel storage installation (ISFSI) loading was conducted. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity cornerstone. Based on answering "No" to all the questions in the Barrier Integrity Cornerstone column of Table 4a, the finding was determined to be of very low safety significance (Green).

The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding, in that the licensee did not ensure effective supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have adequate oversight of design calculations and documentation for establishing structural adequacy of the rail, rail clips, rail clip bolts, leveling plate and leveling plate anchors.

Inspection Report# : [2011005](#) ([pdf](#))

Emergency Preparedness

Occupational Radiation Safety

G Significance: G Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY RADIOLOGICAL CONDITIONS PRIOR TO ENTERING HIGH RADIATION AREAS

The inspectors reviewed a self-revealed finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 for the failure of workers to comply with established radiological protective measures as specified for entry into and work within high radiation areas. The issue has been entered into the licensee's corrective action program as condition reports (CR) 11-93976 and CR 11-94374. Corrective actions were implemented to address personal accountability and evaluate the need for procedure improvements.

The inspectors reviewed the guidance in IMC 0612 Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(h) in the guidance document. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low-As-Is-Reasonably-Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in the component of the corrective action program in that the licensee failed to take the appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee had previously identified issues with the effectiveness of radiological briefs for access to high radiation areas on four recent occasions. (P.1(d)) (Section 2RS1)

Inspection Report# : [2011004](#) ([pdf](#))

G Significance: G Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ACCURATELY ASSESS OCCUPATIONAL DOSE

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1201(c) for the failure to accurately assess occupational dose specific to effective dose equivalent (EDE) determinations. The issue has been entered into the licensee's CAP as CR 11-02336. Corrective actions included a review of applicable guidance and revisions to applicable procedures.

The inspectors reviewed the guidance in IMC 0612 and determined that the finding was more than minor because it was associated with the program and process attribute of occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that inaccurate radiation monitoring affects the licensee's ability to control and limit radiation exposures. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety-significance because the finding did not involve: (1) ALARA planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of human performance in the component of resources. Specifically, licensee did not provide complete and accurate procedures to the radiation safety staff. (H.2 (c)) (Section 2RS4)

Inspection Report# : [2011004 \(pdf\)](#)

Significance: SL-IV Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION

The inspectors identified a NCV of 10 CFR 50.9(a), "Completeness and Accuracy of Information," that occurred when the licensee failed to report an Occupational Radiation Safety Performance Indicator (PI) occurrence to reflect an individual entering on April 22, 2011, a locked high radiation area in the drywell under vessel area without the appropriate radiological controls in place. The issue was entered into the licensee's CAP as CR 11-00473. Corrective actions included the licensee submitting corrected occupational radiation safety PI data to the NRC.

Violations of 10 CFR 50.9 that potentially impede or impact the regulatory process are dispositioned using traditional enforcement. The inspectors concluded that the licensee had reasonable opportunity to foresee and correct the inaccurate information prior to the initial information being submitted to the NRC. This violation is characterized as a Severity Level (SL) IV violation because it is similar to Example 6.9.d.11 of the NRC Enforcement Policy, and is consistent with Section 2.2.1.c, in that the violation impacted the regulatory process. The violation was not repetitive or willful. The significance of the performance deficiency associated with the under vessel entry was previously reviewed by the inspectors and dispositioned in IR 05000440/2011013. As such, no ROP finding and no cross-cutting aspect was assigned in this report. (Section 4OA1)

The associated performance deficiency is tracked as item 2011-013-02.

Inspection Report# : [2011004 \(pdf\)](#)

G

Significance: May 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient detail in work instructions when retracting a Source Range Monitor. (Section 4OA5.6)

The NRC identified a finding of very low safety significance and a non-cited violation (NCV) of regulatory requirements contained in TS 5.4. "Procedures." Specifically, the licensee had insufficient detail in its instructions to workers, to ensure that the SRM-C cable take-up cartridge was installed correctly. Additionally, the workers failed to follow procedure in removing a nominal nine feet of excess SRM detector cable. The licensee entered this issue into its corrective action program (CAP) as CR 11-93247.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because if left uncorrected the performance deficiency had the potential to lead to a more significant safety concern. Therefore, the performance deficiency was a finding. The finding did not involve ALARA, did not involve an overexposure or a substantial potential for an overexposure, and did not compromise the licensee's ability to access dose. Consequently, the inspectors concluded that the finding was of very low safety significance (Green). The finding was also a non-cited violation (NCV) of regulatory requirements contained in Technical Specification 5.4. "Procedures." The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of work practices, in that, work instructions lacked sufficient detail to ensure appropriate radiological controls were in place and the licensee did not ensure that personnel followed procedures (H.4. b). (Section 4OA5.6)

Significance: **W** May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained

covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
 - b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.
- A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013](#) ([pdf](#))

G

Significance: Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Establish Radiological Conditions in a Locked HRA [i.e., the fuel pool cooling and cleanup (FPCC) Heat Exchanger Room] Prior to Allowing Personnel Access.

A finding of very low safety significance and an associated NCV of Technical Specifications (TS) 5.7.2 was self-revealed following the licensee's failure to adequately identify the radiological conditions in the fuel pool cooling and cleanup (FPCC) heat exchanger room prior to a pre-job brief for work in the room and prior to workers entering the

room. Specifically, on November 19, 2010, operators involved in tag out activities for a valve encountered elevated dose rates when they entered an un surveyed area on the back side of the FPCC heat exchanger. At the time the FPCC room was controlled as a locked high radiation area (HRA). While entering the area one of the operators received an electronic dosimeter (ED) dose rate alarm of 1500 mRem/hr. Follow-up surveys determined that the highest dose rate in the area entered was 2000 mrem/hr. As part of the licensee's corrective actions, lessons learned were shared with the radiation protection (RP) staff to address survey and briefing inadequacies. Additional performance management actions were implemented by the station.

The inspectors determined that the licensee's failure to adequately identify the radiological conditions in the room prior to workers entering the work area was a performance deficiency. The inspectors determined that the finding was more than minor because the inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the finding; the workers were not made aware of the radiological conditions before entry into the area on the back side of the FPCC heat exchanger. Additionally, the finding impacted the program and process attribute of the Occupational Radiation Safety Cornerstone by adversely affecting the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation in that workers' entry into areas, without knowledge of the radiological conditions, placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the performance deficiency was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross-cutting component in the human performance area of work practices in that the work crew proceeded in the face of uncertainty when unexpected circumstances were encountered in the FPCC heat exchanger room. [H.4(a)]

Inspection Report# : [2011002](#) ([pdf](#))

Public Radiation Safety

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN THE PLANT UNDERDRAIN SYSTEM WITHIN USAR DESCRIBED CAPABILITIES

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to maintain the plant underdrain system as described in the Updated Safety Analysis Report (USAR) using adequate design control measures. Specifically, the inspectors determined that the plant underdrain system's condition was unable to support maintaining a design underground water table level of less than 568 feet with the automatic level detection and pumping system as described the USAR. As a result of this inability to maintain the system, a postulated Chapter 15 accident associated with a possible radiation waste tank failure required recalculation to demonstrate radiation safety for the public. The issue was placed in the licensee's corrective action program as CR 2011-07169, Plant Underdrain Groundwater Level Readings Non-Conservative Acceptance Criteria. The site took immediate actions to upgrade the installed system and is utilizing temporary manually operated pumps to assist the normally installed systems.

The performance deficiency was screened in accordance with IMC 0612, Appendix B, "Issue Screening" and determined to be more than minor. None of the IMC 0612, Appendix E examples described this scenario but the inspectors determined that if left uncorrected the performance deficiency had the potential to lead to a more significant radiological safety concern by creating a liquid effluent release path that was not evaluated for radiological dose impact to the public prior to discharge and thus was more than minor. The finding was reviewed for significance in accordance with IMC 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding affected the Public Radiation Safety cornerstone, Effluent Release Program. The finding was then reviewed for significance by the inspectors in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance. Specifically, the finding did not involve radioactive material control or the radiological environmental monitoring program. The finding was not a failure to implement the radiological effluent release program and public doses values were not greater than 10 CFR Part 50, Appendix I, criteria or 10 CFR 20.1301(e) criteria. The finding was associated with a

cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area because the licensee did not thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions. Specifically, numerous deficiencies previously identified with the plant underdrain system were not addressed in enough detail to thoroughly evaluate the problem and extent of condition to allow the system to maintain the plant underground water table at USAR described levels.

Inspection Report# : [2011005](#) (*pdf*)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : March 02, 2012

Perry 1

1Q/2012 Plant Inspection Findings

Initiating Events

G

Significance: Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

REACTOR MANUAL SCRAM ASSOCIATED WITH INADEQUATE MAINTENANCE RISK EVALUATION

A self-revealed finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4) was identified for failure to assess and manage risk associated with maintenance activities. Specifically, the licensee planned and conducted maintenance on a stator water cooling system pressure gauge on March 1, 2012, as a lower risk evolution than required, and conducted the maintenance online despite several decision points which indicated that this maintenance should have been conducted with the unit offline. When performed on line, the activity caused a reactor scram. The licensee entered the issue into the corrective action program as Condition Report 2012-03231.

The finding was evaluated using IMC 0612, Appendix E, "Examples of Minor Issues," and was determined to be more than minor because it is similar to Example 7.e and resulted in a reactor scram. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In accordance with IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," a Region III Senior Reactor Analyst performed an analysis of the risk deficit for the unevaluated condition associated with work on a stator water system pressure gauge resulting in a reactor scram. The Perry Standardized Plant Analysis Risk (SPAR) model version 8.15 and SAPHIRE version 8.0.7.18 was used to calculate an Incremental Core Damage Probability Deficit (ICDPD). The result was an ICDPD of less than 7E-8. The dominant core damage sequences involved: (1) loss of the main condenser, failure of suppression pool cooling, failure of containment spray, failure of the power conversion system, failure of containment venting, and failure of late injection; and (2) failure of the reactor protection system to shutdown the reactor with failure of the recirculation pumps to trip. In accordance with IMC 0609, Appendix K, because the calculated ICDPD was not greater than 1E-6, the finding was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect in the Work Planning (H.3(a)) component of the Human Performance cross-cutting area because the licensee did not incorporate appropriate risk insights into the development of the work package. Specifically, the licensee did not evaluate, during the planning phase of the work preparation, for the impact of re-installation of the pressure gauge and the potential for a pressure spike; a spike which caused a sustained runback of the main turbine generator with a resultant required action by the operators to manually scram the reactor.

Inspection Report# : [2012002 \(pdf\)](#)

Significance: SL-IV Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it

was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Protect Safety Related Equipment from Internal Flooding

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to ensure safety-related equipment would be adequately protected from internal flooding. Specifically, the licensee failed to adequately evaluate the volume of water originating from a postulated crack in service water (SW) piping within the control complex. This finding was entered into the licensee's corrective action program. The corrective actions included performing additional analyses, establishing compensatory measures, issuing procedure orders, and revising operating procedures.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Events cornerstone attribute of Equipment Performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase III Analysis, the inspectors determined the finding was of very low safety significance (Green). The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011008 \(pdf\)](#)

Significance: SL-IV Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Report Unanalyzed Condition Related to Internal Flooding

The inspectors identified a Severity Level IV violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Reactors," for failure to report within eight hours an unanalyzed condition that significantly degrades plant safety. Specifically, the licensee failed to notify NRC upon discovery of a postulated internal flood in the control complex could result in loss of single failure capability of safety-related equipment. This violation was entered into the licensee's corrective action program.

The performance deficiency was determined to involve a traditional enforcement violation because it potentially impeded or impacted the regulatory process. The traditional enforcement violation was determined to be more than minor because the information that was not provided through the event notification had a material impact on safety and licensed activities. The traditional enforcement violation was determined to be a Severity Level IV violation because the failure to report within eight hours an unanalyzed condition did not result in an unacceptable change to the facility or procedures. An evaluation for cross-cutting aspect was not applicable because this was a traditional enforcement violation.

Inspection Report# : [2011008 \(pdf\)](#)

G

Significance: Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY EXPECTED EFFECTS RESULTS IN OVERFLOWING THE AUXILIARY BUILDING SUMP

A finding of very low safety significance and associated NCV of Technical Specification 5.4.1 was self-revealed for the licensee's failure to follow plant procedures. The inspectors determined that the licensee failed to follow a procedure which requires verification of expected effects when operating plant components. This failure led to draining approximately 15,000 gallons of suppression pool water which overflowed the Auxiliary Building sump and caused the spread of contamination to various areas of the Auxiliary Building. The licensee entered the issue into their corrective action program. Immediate actions included securing all sources of water to the Auxiliary Building sump and removing water from the Auxiliary Building.

This performance deficiency was determined to be more than minor because it impacted the Human Performance attribute of the Initiating Events cornerstone, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is of very low safety significance because it did not increase the likelihood of a loss of reactor coolant system inventory, degrade the licensee's ability to terminate a leak path or add inventory, or degrade the licensee's ability to recover decay heat removal. The finding was associated with a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area per IMC 0310 (H.2(c)), because the licensee did not provide complete, accurate and up-to-date procedures. Specifically, the procedure to test the residual heat removal waterleg pump did not address the potential to drain the suppression pool to the Auxiliary Building sump.

Inspection Report# : [2011003 \(pdf\)](#)

Mitigating Systems

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO PERFORM MAINTENANCE ON SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of TS 5.4.1.a for failure to implement a maintenance procedure for safety-related equipment required by Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)." Specifically, the licensee performed an internal inspection on the 'B'

train of the annulus exhaust gas treatment system (AEGTS) rendering the train inoperable. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program as condition report (CR) 2011-05530.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as very low safety significance (Green) by answering ‘no’ to questions in the Mitigating Systems column of IMC 0609, Attachment 4, Table 4a, since the remaining train of AEGTS was operable and did not result in a loss of function for the impacted components, and the inoperable train was not inoperable for longer than allowed by TS. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross cutting area because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee did not evaluate the impact of performing the internal inspection on the operability of the system and utilized an operator to take action if the system was called upon to perform its design function.

Inspection Report# : [2011005](#) (*pdf*)

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

DIESEL GENERATOR ROOM'S FIRE PROTECTION SYSTEM CONCERN

The inspectors identified a finding of very low safety significance and associated NCV of License Condition 2.C.6 for the failure to install heat detectors in the emergency diesel generator (EDG) rooms in accordance with their listed approval. Specifically, the detectors were installed at a height of 24 feet, which was in excess of approved ceiling height without appropriate reduction of spacing for ceiling height. The licensee entered the issue into their corrective action program as CR 2011-06242 and planned to evaluate modifications to address the issue.

The finding was determined to be more than minor because the failure to install heat detectors in accordance with their listed approval was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the high installation height for the detectors without appropriate reduced detector spacing would result in requiring a larger fire and a delay in carbon dioxide system actuation. This finding was of very low safety significance using IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” because a fire involving an EDG would only affect the EDG involved in the fire due to the substantive fire barriers between the EDG rooms. The evaluated conditions were not significant risk contributors. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Inspection Report# : [2011005](#) (*pdf*)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Control Circuit Voltage Calculation for Safety-Related Motor Starter Contactors

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control”, for failure to adequately evaluate the capability of motor control starter contactors to operate during design basis degraded voltage conditions. Specifically, the licensee did not analyze all circuit elements of resistance and failed to incorporate the latest results of calculated plant bus voltages.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, the licensee performed an

operability evaluation taking into account all resistances in the circuit, the latest load flow analysis and test data and concluded there was sufficient voltage available. This finding has a cross-cutting aspect in the area of Resources for failure to ensure complete, accurate, and up-to-date design documentation, procedures, work packages and correct labeling of components.

Inspection Report# : [2011008](#) (pdf)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Test Safety-Related Contactors at Degraded Voltage Conditions

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to test safety-related motor starter contactors at design basis conditions. Specifically, the licensee failed to demonstrate the ability of ESW Pump 'A' discharge valve 1P45F0130A motor starter contactor to operate at minimum pickup voltage during design basis degraded voltage conditions. This finding was entered into the licensee's corrective action program.

The performance deficiency was determined to be more than minor because if left uncorrected it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability.

Specifically, after further evaluation, the licensee's engineering staff concluded the issue did not impact current operability because periodic testing for other type of contactors provided validation the valve motor contactor would operate when required for the postulated degraded voltage conditions. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution Corrective Action Program for failure to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2011008](#) (pdf)

G

Significance: Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING 'A' ESW PUMP MAINTENANCE ACTIVITIES

A self-revealed finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR 50.65 (a)(4) was apparent in the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition during maintenance on the 'A' emergency service water (ESW) pump when the pump packing gland follower was replaced following a packing replacement. Specifically, there was a 45 minute period of time that the licensee's declared plant risk was in a GREEN status before the pump was retested and found to be unreliable for long term operations and the plant risk was returned to YELLOW status. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612 Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was < 1E-6. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform the post-maintenance test to verify that the 'A' ESW pump was available prior to lowering declared plant risk. (H.1(b)) (Section 1R13)

Inspection Report# : [2011004](#) (pdf)

G

Significance: Jul 08, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Emergency Service Water System Piping did not meet ASME Code Requirements (Section 4OA5)

A finding of very low safety significance and an associated non-cited violation of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to perform an adequate evaluation for Emergency Service Water (ESW) system piping. Specifically, the inspectors identified that the licensee had not evaluated all design and licensing basis loads and load combinations in accordance with Seismic Category I and American Society of Mechanical Engineers (ASME) code requirements. The licensee documented the corrective actions in CR10-86678 and CR11-88800.

The inspectors determined that the performance deficiency affected the Mitigating Systems Cornerstone. The inspectors compared this performance deficiency to the minor questions of IMC 0612, Appendix B, "Issue Screening," dated December 24, 2009, and the inspectors determined that this finding was more than minor because, if left uncorrected, the failure to perform an adequate evaluation of the ESW system piping would have the potential to become a more significant safety concern. Absent NRC intervention, the licensee would not have performed the evaluation of the Vertical Cask Transporter (VCT) load in combination with seismic load as well as other design basis loads which would have placed the piping in a potential overstress condition leading to a permanent deformation of the piping where the system would not be able to perform its safety function and it would become a more significant safety concern. Specifically, compliance with Seismic Category I and ASME code requirements was to ensure structural integrity of the ESW piping during a design basis event. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 -- Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors answered "yes" to the question of is the finding a design qualification deficiency confirmed not to result in loss of operability or functionality in the Mitigating Systems column based on the licensee revising design calculations and initiated modifications where necessary to demonstrate compliance and concluded that the finding was of very low safety-significance (Green). The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding. The licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have effective oversight of design calculation and documentation for demonstrating ASME code compliance of the ESW system piping. [H.4(c)] (Section 4OA5)

Inspection Report# : [2011009](#) (pdf)

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO OPERATE SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a, for failure to establish a procedure to remove power from the shutdown cooling isolation valves while shutdown cooling was in operation during a plant refueling outage. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because the risk significance was evaluated to have a delta core damage frequency of less than E-6/yr and a delta large early release frequency of less than E-7/yr. This finding was associated with a cross-cutting aspect in the Work Practices component of the Human Performance cross-cutting area per IMC 0310 (H.4(b)) because the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures. Specifically, the operators did not question operating safety-related plant equipment without appropriate procedural guidance.

Inspection Report# : [2011003](#) (pdf)

G

Significance: Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

FAILURE TO FOLLOW TECHNICAL SPECIFICATION BASES

The inspectors identified a finding of very low safety significance for failure to follow Technical Specification Limiting Condition for Operations 3.0.2 bases. The inspectors determined that the licensee rendered safety-related plant equipment inoperable and entered TS 3.6.1.3 Condition A for operational convenience. The licensee entered the issue into their corrective action program.

This performance deficiency was determined to be more than minor because it impacted the Configuration Control attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding is of very low safety significance because it does not increase the likelihood that a loss of decay heat removal, reactor coolant system inventory, or offsite power will occur and does not degrade the ability to terminate a leak path, recover decay heat removal once it is lost, or establish an alternate core cooling path if decay heat removal cannot be re established. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross-cutting area per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee chose to disable automatic protective features of a plant system while performing “high-risk” activities.

Inspection Report# : [2011003 \(pdf\)](#)

Barrier Integrity

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE EVALUATION OF CRANE SUPPORT STRUCTURE ELEMENTS

A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for failure to provide adequate design control measures for crane support structure elements which included bridge crane rail, bridge crane rail clips, bridge crane rail clip studs, leveling plate and leveling plate anchors. Specifically, for evaluation of these structural elements, the licensee failed to demonstrate Seismic Category I compliance in accordance with their design and licensing basis and failed to evaluate the structural elements for resulting reaction forces from the Fuel Handling Building crane. The licensee documented these issues in CRs 11-88791; 11-90252; 10 86582; and 11-04124.

The performance deficiency was determined to be more than minor because if left uncorrected the performance deficiency could lead to a more significant safety concern if independent spent fuel storage installation (ISFSI) loading was conducted. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of Findings,” Table 4a for the Barrier Integrity cornerstone. Based on answering “No” to all the questions in the Barrier Integrity Cornerstone column of Table 4a, the finding was determined to be of very low safety significance (Green).

The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding, in that the licensee did not ensure effective supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have adequate oversight of design calculations and documentation for establishing structural adequacy of the rail, rail clips, rail clip bolts, leveling plate and leveling plate anchors.

Inspection Report# : [2011005 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G**Significance:** Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY RADIOLOGICAL CONDITIONS PRIOR TO ENTERING HIGH RADIATION AREAS

The inspectors reviewed a self-revealed finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 for the failure of workers to comply with established radiological protective measures as specified for entry into and work within high radiation areas. The issue has been entered into the licensee's corrective action program as condition reports (CR) 11-93976 and CR 11-94374. Corrective actions were implemented to address personal accountability and evaluate the need for procedure improvements.

The inspectors reviewed the guidance in IMC 0612 Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(h) in the guidance document. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low-As-Is-Reasonably-Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in the component of the corrective action program in that the licensee failed to take the appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee had previously identified issues with the effectiveness of radiological briefs for access to high radiation areas on four recent occasions. (P.1(d)) (Section 2RS1)

Inspection Report# : [2011004 \(pdf\)](#)**G****Significance:** Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ACCURATELY ASSESS OCCUPATIONAL DOSE

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1201(c) for the failure to accurately assess occupational dose specific to effective dose equivalent (EDE) determinations. The issue has been entered into the licensee's CAP as CR 11-02336. Corrective actions included a review of applicable guidance and revisions to applicable procedures.

The inspectors reviewed the guidance in IMC 0612 and determined that the finding was more than minor because it was associated with the program and process attribute of occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that inaccurate radiation monitoring affects the licensee's ability to control and limit radiation exposures. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety-significance because the finding did not involve: (1) ALARA planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of human performance in the component of resources. Specifically, licensee did not provide complete and accurate procedures to the radiation safety staff. (H.2(c)) (Section 2RS4)

Inspection Report# : [2011004 \(pdf\)](#)**Significance: SL-IV** Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION

The inspectors identified a NCV of 10 CFR 50.9(a), "Completeness and Accuracy of Information," that occurred when the licensee failed to report an Occupational Radiation Safety Performance Indicator (PI) occurrence to reflect an individual entering on April 22, 2011, a locked high radiation area in the drywell under vessel area without the appropriate radiological controls in place. The issue was entered into the licensee's CAP as CR 11-00473. Corrective actions included the licensee submitting corrected occupational radiation safety PI data to the NRC.

Violations of 10 CFR 50.9 that potentially impede or impact the regulatory process are dispositioned using traditional enforcement. The inspectors concluded that the licensee had reasonable opportunity to foresee and correct the inaccurate information prior to the initial information being submitted to the NRC. This violation is characterized as a Severity Level (SL) IV violation because it is similar to Example 6.9.d.11 of the NRC Enforcement Policy, and is consistent with Section 2.2.1.c, in that the violation impacted the regulatory process. The violation was not repetitive or willful. The significance of the performance deficiency associated with the under vessel entry was previously reviewed by the inspectors and dispositioned in IR 05000440/2011013. As such, no ROP finding and no cross-cutting aspect was assigned in this report. (Section 4OA1)

The associated performance deficiency is tracked as item 2011-013-02.

Inspection Report# : [2011004](#) (pdf)

G

Significance: May 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient detail in work instructions when retracting a Source Range Monitor. (Section 4OA5.6)

The NRC identified a finding of very low safety significance and a non-cited violation (NCV) of regulatory requirements contained in TS 5.4. "Procedures." Specifically, the licensee had insufficient detail in its instructions to workers, to ensure that the SRM-C cable take-up cartridge was installed correctly. Additionally, the workers failed to follow procedure in removing a nominal nine feet of excess SRM detector cable. The licensee entered this issue into its corrective action program (CAP) as CR 11-93247.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because if left uncorrected the performance deficiency had the potential to lead to a more significant safety concern. Therefore, the performance deficiency was a finding. The finding did not involve ALARA, did not involve an overexposure or a substantial potential for an overexposure, and did not compromise the licensee's ability to access dose. Consequently, the inspectors concluded that the finding was of very low safety significance (Green). The finding was also a non-cited violation (NCV) of regulatory requirements contained in Technical Specification 5.4. "Procedures." The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of work practices, in that, work instructions lacked sufficient detail to ensure appropriate radiological controls were in place and the licensee did not ensure that personnel followed procedures (H.4. b). (Section 4OA5.6)

Inspection Report# : [2011013](#) (pdf)

W

Significance: May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not

involve “as low as reasonably achievable” (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee’s ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers’ escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, “Radiological Controls for Highly Radioactive and Irradiated Components or Materials,” to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, “Radiation Work Permit,” in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.

b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013](#) (pdf)

Public Radiation Safety

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN THE PLANT UNDERDRAIN SYSTEM WITHIN USAR DESCRIBED CAPABILITIES

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to maintain the plant underdrain system as described in the Updated Safety Analysis Report (USAR) using adequate design control measures. Specifically, the inspectors determined that the plant underdrain system’s condition was unable to support maintaining a design underground water table level of less than 568 feet with the automatic level detection and pumping system as described the USAR. As a result of this inability to maintain the system, a postulated Chapter 15 accident associated with a possible radiation waste tank failure required recalculation to demonstrate radiation safety for the public. The issue was placed in the licensee’s corrective action program as CR 2011-07169, Plant Underdrain Groundwater Level Readings Non-Conservative Acceptance Criteria. The site took immediate actions to upgrade the installed system and is utilizing temporary manually operated pumps to assist the normally installed systems.

The performance deficiency was screened in accordance with IMC 0612, Appendix B, “Issue Screening” and determined to be more than minor. None of the IMC 0612, Appendix E examples described this scenario but the inspectors determined that if left uncorrected the performance deficiency had the potential to lead to a more significant radiological safety concern by creating a liquid effluent release path that was not evaluated for radiological dose impact to the public prior to discharge and thus was more than minor. The finding was reviewed for significance in accordance with IMC 0609, Attachment 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” and determined that the finding affected the Public Radiation Safety cornerstone, Effluent Release Program. The finding was then reviewed for significance by the inspectors in accordance with IMC 0609, Appendix D, “Public Radiation Safety Significance Determination Process,” and determined to be of very low safety significance. Specifically, the finding did not involve radioactive material control or the radiological environmental monitoring program. The finding was not a failure to implement the radiological effluent release program and public doses values were not

greater than 10 CFR Part 50, Appendix I, criteria or 10 CFR 20.1301(e) criteria. The finding was associated with a cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area because the licensee did not thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions. Specifically, numerous deficiencies previously identified with the plant underdrain system were not addressed in enough detail to thoroughly evaluate the problem and extent of condition to allow the system to maintain the plant underground water table at USAR described levels.

Inspection Report# : [2011005](#) ([pdf](#))

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 27, 2012

Identified By: NRC

Item Type: FIN Finding

Overall Finding Perry from Nuclear Plant 2012 Problem Identification and Resolution Inspection

On the basis of the activities selected for review, the team concluded that implementation of the problem and identification process and the corrective action program (CAP) at Perry Nuclear Plant had varying elements of effectiveness. The licensee normally had a low threshold for identifying problems and entering them in the CAP with some instances of condition reports not generated until after identification by the resident inspectors. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were evaluated commensurate with their safety significance. However, the thoroughness and effectiveness of some evaluations was found deficient by the team and by licensee audits and self-assessments. The issues with the effectiveness of evaluations including the effectiveness of identifying root and contributing causes, contributed to corrective actions not consistently correcting conditions. The team concluded the licensee's overall implementation of actions that correct issues and prevent recurrence of issues was marginally effective. The team noted that the licensee reviewed Operating Experience (OE) for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter nuclear safety concerns into the CAP or to report them to supervision.

Inspection Report# : [2012007](#) ([pdf](#))

Last modified : May 29, 2012

Perry 1

2Q/2012 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

FAILUR TO FOLLOW OPERATIONS PROCEDURES

The inspectors identified a finding of very low safety significance when the licensee failed to identify logged readings on the Daily Surveillance Requirements Sheets which were above Operational Decision Making Issue (ODMI) trigger points and subsequently failed to take actions in accordance with the ODMI. Specifically, from April 16 through April 26, 2012, the logged leak rate on the 5A feedwater heater drain valve line exceeded an ODMI trigger point and no action was taken by several different operating crews which were on watch over that time span. The issue was entered into the licensee's corrective action program as Condition Report 2012-06660.

The inspectors determined that the finding was more than minor because it is similar to example 4.h of Appendix E to IMC 0612 and it impacted the Human Performance attribute of the Initiating Events Cornerstone, adversely affecting the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In addition, if left uncorrected, this issue could lead to a more significant safety concern. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Planning (H.4(c)) component of the Human Performance cross cutting area because licensee supervisory personnel failed to make risk-significant decisions when faced with uncertain or unexpected plant conditions to ensure safety was maintained. Specifically, the licensee's supervisory oversight of the daily surveillance logs did not recognize readings above the ODMI trigger points and as a result, took no actions to correct an out of specification condition as logged for more than 10 days.

Inspection Report# : [2012003 \(pdf\)](#)

G

Significance: Jun 30, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

INADEQUATE LIFT PLANT CAUSES LIFING RIG FAILURE

A self-revealed finding of very low safety significance was identified when a rigging evolution in the fuel handling building resulted in suspension of an approximately 10,000 pound support column by only part of the planned lift rig. Specifically, on April 19, 2012, the licensee failed to develop an adequate lift plan in accordance with the licensee procedure. While lifting an approximately 10,000 pound column to the vertical position, the load developed a rolling motion and caused a lifting strap to part. Subsequently, as the load settled, the flat side of the baseplate impacted the fuel handling building floor. The licensee entered the issue into the corrective action program as Condition Report 2012-06153.

The finding was evaluated using IMC 0612, Appendix E and was not similar to any of the examples, but was determined to be more than minor because if left uncorrected the safety concern would become more significant. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since

the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Practices (H.4(a)) component of the Human Performance cross-cutting area because licensee personnel proceeded in the face of uncertainty or unexpected consequences. Specifically, the licensee continued the attempted lift of the column despite indications that the load was not reacting as would be expected for a properly designed lifting rig attached to the column.

Inspection Report# : [2012003](#) ([pdf](#))

G

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Transient Combustible Program

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.a for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to remove transient combustibles from the plant after they were no longer required to support a work activity. Upon discovery the licensee entered the issue into their corrective action program and removed the transient combustibles from the area.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored below safety-related Division 1 cables in cable trays and formed a credible fire scenario. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The finding did not have a cross-cutting aspect because it was isolated and not reflective of current performance.

Inspection Report# : [2012008](#) ([pdf](#))

G

Significance: Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

REACTOR MANUAL SCRAM ASSOCIATED WITH INADEQUATE MAINTENANCE RISK EVALUATION

A self-revealed finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4) was identified for failure to assess and manage risk associated with maintenance activities. Specifically, the licensee planned and conducted maintenance on a stator water cooling system pressure gauge on March 1, 2012, as a lower risk evolution than required, and conducted the maintenance online despite several decision points which indicated that this maintenance should have been conducted with the unit offline. When performed on line, the activity caused a reactor scram. The licensee entered the issue into the corrective action program as Condition Report 2012-03231.

The finding was evaluated using IMC 0612, Appendix E, "Examples of Minor Issues," and was determined to be more than minor because it is similar to Example 7.e and resulted in a reactor scram. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In accordance with IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," a Region III Senior Reactor Analyst performed an analysis of the risk deficit for the unevaluated condition associated with work on a stator water system pressure gauge resulting in a reactor scram. The Perry Standardized Plant Analysis Risk (SPAR) model version 8.15 and SAPHIRE version 8.0.7.18 was used to calculate an Incremental Core Damage Probability Deficit (ICDPD). The result was an ICDPD of less than 7E-8. The dominant core damage sequences involved: (1) loss of the main condenser, failure of suppression pool cooling, failure of containment spray, failure of the power conversion system, failure of containment venting, and failure of late injection; and (2) failure of the reactor protection system to shutdown the reactor with failure of the recirculation pumps to trip. In accordance with IMC 0609, Appendix K, because the calculated ICDPD was not greater than 1E-6, the finding was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect in the Work Planning (H.3(a)) component of the Human Performance cross-cutting area because the licensee did not incorporate appropriate risk insights into the development of the work package. Specifically, the

licensee did not evaluate, during the planning phase of the work preparation, for the impact of re-installation of the pressure gauge and the potential for a pressure spike; a spike which caused a sustained runback of the main turbine generator with a resultant required action by the operators to manually scram the reactor.

Inspection Report# : [2012002](#) (pdf)

Significance: SL-IV Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005](#) (pdf)

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005](#) (pdf)

G**Significance:** Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Protect Safety Related Equipment from Internal Flooding

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to ensure safety-related equipment would be adequately protected from internal flooding. Specifically, the licensee failed to adequately evaluate the volume of water originating from a postulated crack in service water (SW) piping within the control complex. This finding was entered into the licensee's corrective action program. The corrective actions included performing additional analyses, establishing compensatory measures, issuing procedure orders, and revising operating procedures.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Events cornerstone attribute of Equipment Performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase III Analysis, the inspectors determined the finding was of very low safety significance (Green). The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011008 \(pdf\)](#)**Significance:** SL-IV Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Report Unanalyzed Condition Related to Internal Flooding

The inspectors identified a Severity Level IV violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Reactors," for failure to report within eight hours an unanalyzed condition that significantly degrades plant safety. Specifically, the licensee failed to notify NRC upon discovery of a postulated internal flood in the control complex could result in loss of single failure capability of safety-related equipment. This violation was entered into the licensee's corrective action program.

The performance deficiency was determined to involve a traditional enforcement violation because it potentially impeded or impacted the regulatory process. The traditional enforcement violation was determined to be more than minor because the information that was not provided through the event notification had a material impact on safety and licensed activities. The traditional enforcement violation was determined to be a Severity Level IV violation because the failure to report within eight hours an unanalyzed condition did not result in an unacceptable change to the facility or procedures. An evaluation for cross-cutting aspect was not applicable because this was a traditional enforcement violation.

Inspection Report# : [2011008 \(pdf\)](#)

Mitigating Systems

G**Significance:** Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Design Spray Density is Achieved

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure design spray density was achieved for the Unit 1 Division 2 cable chase area. Specifically, the placement of spray nozzles for cable trays did not ensure that the design spray density specified by design calculations would be achieved. The licensee entered the issue into their corrective action program and planned to evaluate their calculation and the actual water density required.

The inspectors determined that the finding was more than minor because the failure to ensure that the design spray density would be achieved resulted in the potential that a fire involving cable trays would not be suppressed. The finding was of very low safety significance due to a combination of low ignition frequencies for the area and only one train of equipment would be affected. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was an original design issue and not representative of current performance.

Inspection Report# : [2012008](#) (pdf)

G

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Sprinkler Piping Could be Drained

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure that sprinkler piping could be drained. Specifically, the licensee failed to install sprinkler piping in accordance with the standard for sprinkler systems which required that all sprinkler pipe and fittings shall be so installed that the system may be drained. The licensee entered the issue into their corrective action program and planned to further assess existing conditions of the piping and determine what changes are needed to ensure piping is drained after a system actuation.

The finding was determined to be more than minor because some corrosion of internal sprinkler piping was observed which could result in blockage of individual sprinkler heads or spray nozzles thereby reducing the effectiveness of the sprinkler system. This finding was of very low safety significance because the inspectors concluded that significantly less than 10 percent of the spray nozzles and sprinkler heads would be affected. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not evaluate relevant external operating experience. Specifically, the licensee had reviewed operating experience relating to blockage of pre-action sprinkler systems, but did not sufficiently evaluate the operating experience to recognize that it applied to the Perry Nuclear Power Plant.

Inspection Report# : [2012008](#) (pdf)

G

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Install Sequential Timing Device for Fire Pumps

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to install a sequential timing device for the diesel driven fire pump.

Specifically, the standard for fire pumps required that controllers for multiple pump units, such as those at the Perry Nuclear Power Plant, incorporate a sequential timing device to prevent any one pump starting simultaneously with any other pump. The licensee entered the issue into their corrective action program and initiated a modification to install a time delay for the pump.

The inspectors determined that the finding was more than minor because the failure to install a sequential timing device for the diesel driven fire pump could result in both fire pumps starting simultaneously and a significant water hammer which could damage fire protection piping or equipment. The finding was of very low safety significance due to a combination of low ignition frequencies for the affected areas and only one train of equipment would be affected for fires in those areas. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self and Independent Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed an Unresolved Item (URI) relating to this issue for another plant, but failed to identify that the Perry Nuclear Power Plant had the same configuration and requirements as described in the URI.

Inspection Report# : [2012008](#) (pdf)

G

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Full Area Detection

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to provide detection throughout Fire Area 1CC-4a. Specifically, Fire Area 1CC-4a was described by the USAR as having an early warning detection system. However, the corridor area of Fire Area 1CC-4a lacked detection. The licensee entered the issue into their corrective action program and planned to evaluate a change to their detection system.

The inspectors determined that the finding was more than minor because the lack of detection in the corridor area of Fire Area 1CC-4a could result in delayed detection of a fire which, if unmitigated, could affect safety-related cables above the corridor area. The finding was of very low safety significance because the portion of Fire Area 1CC-4a which contained safety-related cables did have smoke detectors and a sprinkler/spray system. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self-Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed Fire Area 1CC-4a, but did not assess the design of systems in terms of the licensing basis.

Inspection Report# : [2012008](#) (pdf)

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO PERFORM MAINTENANCE ON SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of TS 5.4.1.a for failure to implement a maintenance procedure for safety-related equipment required by Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)." Specifically, the licensee performed an internal inspection on the 'B' train of the annulus exhaust gas treatment system (AEGTS) rendering the train inoperable. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program as condition report (CR) 2011-05530.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as very low safety significance (Green) by answering 'no' to questions in the Mitigating Systems column of IMC 0609, Attachment 4, Table 4a, since the remaining train of AEGTS was operable and did not result in a loss of function for the impacted components, and the inoperable train was not inoperable for longer than allowed by TS. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross cutting area because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee did not evaluate the impact of performing the internal inspection on the operability of the system and utilized an operator to take action if the system was called upon to perform its design function.

Inspection Report# : [2011005](#) (pdf)

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

DIESEL GENERATOR ROOM'S FIRE PROTECTION SYSTEM CONCERN

The inspectors identified a finding of very low safety significance and associated NCV of License Condition 2.C.6 for the failure to install heat detectors in the emergency diesel generator (EDG) rooms in accordance with their listed approval. Specifically, the detectors were installed at a height of 24 feet, which was in excess of approved ceiling height without appropriate reduction of spacing for ceiling height. The licensee entered the issue into their corrective action program as CR 2011-06242 and planned to evaluate modifications to address the issue.

The finding was determined to be more than minor because the failure to install heat detectors in accordance with their listed approval was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that

respond to initiating events to prevent undesirable consequences. Specifically, the high installation height for the detectors without appropriate reduced detector spacing would result in requiring a larger fire and a delay in carbon dioxide system actuation. This finding was of very low safety significance using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," because a fire involving an EDG would only affect the EDG involved in the fire due to the substantive fire barriers between the EDG rooms. The evaluated conditions were not significant risk contributors. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Inspection Report# : [2011005](#) (pdf)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Control Circuit Voltage Calculation for Safety-Related Motor Starter Contactors

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control", for failure to adequately evaluate the capability of motor control starter contactors to operate during design basis degraded voltage conditions. Specifically, the licensee did not analyze all circuit elements of resistance and failed to incorporate the latest results of calculated plant bus voltages.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, the licensee performed an operability evaluation taking into account all resistances in the circuit, the latest load flow analysis and test data and concluded there was sufficient voltage available. This finding has a cross-cutting aspect in the area of Resources for failure to ensure complete, accurate, and up-to-date design documentation, procedures, work packages and correct labeling of components.

Inspection Report# : [2011008](#) (pdf)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Test Safety-Related Contactors at Degraded Voltage Conditions

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to test safety-related motor starter contactors at design basis conditions. Specifically, the licensee failed to demonstrate the ability of ESW Pump 'A' discharge valve 1P45F0130A motor starter contactor to operate at minimum pickup voltage during design basis degraded voltage conditions. This finding was entered into the licensee's corrective action program.

The performance deficiency was determined to be more than minor because if left uncorrected it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, after further evaluation, the licensee's engineering staff concluded the issue did not impact current operability because periodic testing for other type of contactors provided validation the valve motor contactor would operate when required for the postulated degraded voltage conditions. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution Corrective Action Program for failure to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2011008](#) (pdf)

G

Significance: Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY ASSESS RISK DURING 'A' ESW PUMP MAINTENANCE ACTIVITIES

A self-revealed finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR 50.65 (a)(4) was apparent in the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition during maintenance on the 'A' emergency service water (ESW) pump when the pump packing gland follower was replaced following a packing replacement. Specifically, there was a 45 minute period of time that the licensee's declared plant risk was in a GREEN status before the pump was retested and found to be unreliable for long term operations and the plant risk was returned to YELLOW status. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612 Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was < 1E-6. This finding had a cross-cutting aspect in the area of Human Performance, Decision-Making because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform the post-maintenance test to verify that the 'A' ESW pump was available prior to lowering declared plant risk. (H.1(b)) (Section 1R13)

Inspection Report# : [2011004 \(pdf\)](#)

G

Significance: Jul 08, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Emergency Service Water System Piping did not meet ASME Code Requirements (Section 4OA5)

A finding of very low safety significance and an associated non-cited violation of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to perform an adequate evaluation for Emergency Service Water (ESW) system piping. Specifically, the inspectors identified that the licensee had not evaluated all design and licensing basis loads and load combinations in accordance with Seismic Category I and American Society of Mechanical Engineers (ASME) code requirements. The licensee documented the corrective actions in CR10-86678 and CR11-88800.

The inspectors determined that the performance deficiency affected the Mitigating Systems Cornerstone. The inspectors compared this performance deficiency to the minor questions of IMC 0612, Appendix B, "Issue Screening," dated December 24, 2009, and the inspectors determined that this finding was more than minor because, if left uncorrected, the failure to perform an adequate evaluation of the ESW system piping would have the potential to become a more significant safety concern. Absent NRC intervention, the licensee would not have performed the evaluation of the Vertical Cask Transporter (VCT) load in combination with seismic load as well as other design basis loads which would have placed the piping in a potential overstress condition leading to a permanent deformation of the piping where the system would not be able to perform its safety function and it would become a more significant safety concern. Specifically, compliance with Seismic Category I and ASME code requirements was to ensure structural integrity of the ESW piping during a design basis event. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 -- Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors answered "yes" to the question of is the finding a design qualification deficiency confirmed not to result in loss of operability or functionality in the Mitigating Systems column based on the licensee revising design calculations and initiated modifications where necessary to demonstrate compliance and concluded that the finding was of very low safety-significance (Green). The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding. The licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have effective oversight of design calculation and documentation for demonstrating ASME code compliance of the ESW system piping. [H.4(c)] (Section 4OA5)

Inspection Report# : [2011009 \(pdf\)](#)

Barrier Integrity

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE EVALUATION OF CRANE SUPPORT STRUCTURE ELEMENTS

A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to provide adequate design control measures for crane support structure elements which included bridge crane rail, bridge crane rail clips, bridge crane rail clip studs, leveling plate and leveling plate anchors. Specifically, for evaluation of these structural elements, the licensee failed to demonstrate Seismic Category I compliance in accordance with their design and licensing basis and failed to evaluate the structural elements for resulting reaction forces from the Fuel Handling Building crane. The licensee documented these issues in CRs 11-88791; 11-90252; 10 86582; and 11-04124.

The performance deficiency was determined to be more than minor because if left uncorrected the performance deficiency could lead to a more significant safety concern if independent spent fuel storage installation (ISFSI) loading was conducted. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity cornerstone. Based on answering "No" to all the questions in the Barrier Integrity Cornerstone column of Table 4a, the finding was determined to be of very low safety significance (Green).

The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding, in that the licensee did not ensure effective supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have adequate oversight of design calculations and documentation for establishing structural adequacy of the rail, rail clips, rail clip bolts, leveling plate and leveling plate anchors.

Inspection Report# : [2011005 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specification 5.7.2 for the failure to appropriately barricade and conspicuously post an area that was accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 milliRem. Specifically, on May 7, 2012, NRC inspectors identified unposted and unbarricaded access points in the turbine building 557' catacomb area that permitted unencumbered access to locked high radiation areas in the steam affected areas under and on the turbine deck. This issue was entered into the licensee's corrective action program as Condition Report 2012-07583.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(g) in the guidance document. Using IMC 0609, Attachment C for the Occupational Radiation Safety Significance Determination Process (SDP), the inspectors determined that the finding was of very low safety significance because the finding did not

involve: (1) As-Low As-Reasonably Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and (4) a compromised ability to assess dose. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the Perry Nuclear Power Plant corrective action program, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. Additionally, the primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in operating experience. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs (P.2 (b)).

Inspection Report# : [2012003 \(pdf\)](#)

G

Significance: Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO VERIFY RADIOLOGICAL CONDITIONS PRIOR TO ENTERING HIGH RADIATION AREAS

The inspectors reviewed a self-revealed finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 for the failure of workers to comply with established radiological protective measures as specified for entry into and work within high radiation areas. The issue has been entered into the licensee's corrective action program as condition reports (CR) 11-93976 and CR 11-94374. Corrective actions were implemented to address personal accountability and evaluate the need for procedure improvements.

The inspectors reviewed the guidance in IMC 0612 Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(h) in the guidance document. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low-As-Is-Reasonably-Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in the component of the corrective action program in that the licensee failed to take the appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee had previously identified issues with the effectiveness of radiological briefs for access to high radiation areas on four recent occasions. (P.1(d)) (Section 2RS1)

Inspection Report# : [2011004 \(pdf\)](#)

G

Significance: Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ACCURATELY ASSESS OCCUPATIONAL DOSE

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1201(c) for the failure to accurately assess occupational dose specific to effective dose equivalent (EDE) determinations. The issue has been entered into the licensee's CAP as CR 11-02336. Corrective actions included a review of applicable guidance and revisions to applicable procedures.

The inspectors reviewed the guidance in IMC 0612 and determined that the finding was more than minor because it was associated with the program and process attribute of occupational radiation safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that inaccurate radiation monitoring affects the licensee's ability to control and limit radiation exposures. Using IMC 0609 Attachment C for the Occupational Radiation Safety SDP, the inspectors determined that the finding was of very low safety-significance because the finding did not involve: (1) ALARA planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and there was no compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of human performance in the component of resources. Specifically, licensee did not provide complete and accurate procedures to the radiation safety staff. (H.2 (c)) (Section 2RS4)

Inspection Report# : [2011004 \(pdf\)](#)

Significance: SL-IV Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION

The inspectors identified a NCV of 10 CFR 50.9(a), "Completeness and Accuracy of Information," that occurred when the licensee failed to report an Occupational Radiation Safety Performance Indicator (PI) occurrence to reflect an individual entering on April 22, 2011, a locked high radiation area in the drywell under vessel area without the appropriate radiological controls in place. The issue was entered into the licensee's CAP as CR 11-00473. Corrective actions included the licensee submitting corrected occupational radiation PI data to the NRC.

Violations of 10 CFR 50.9 that potentially impede or impact the regulatory process are dispositioned using traditional enforcement. The inspectors concluded that the licensee had reasonable opportunity to foresee and correct the inaccurate information prior to the initial information being submitted to the NRC. This violation is characterized as a Severity Level (SL) IV violation because it is similar to Example 6.9.d.11 of the NRC Enforcement Policy, and is consistent with Section 2.2.1.c, in that the violation impacted the regulatory process. The violation was not repetitive or willful. The significance of the performance deficiency associated with the under vessel entry was previously reviewed by the inspectors and dispositioned in IR 05000440/2011013. As such, no ROP finding and no cross-cutting aspect was assigned in this report. (Section 4OA1)

The associated performance deficiency is tracked as item 2011-013-02.

Inspection Report# : [2011004](#) (pdf)

W

Significance: May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are

reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
- b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013 \(pdf\)](#)

Inspection Report# : [2011014 \(pdf\)](#)

Public Radiation Safety

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Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN THE PLANT UNDERDRAIN SYSTEM WITHIN USAR DESCRIBED CAPABILITIES

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to maintain the plant underdrain system as described in the Updated Safety Analysis Report (USAR) using adequate design control measures. Specifically, the inspectors determined that the plant underdrain system's condition was unable to support maintaining a design underground water table level of less than 568 feet with the automatic level detection and pumping system as described the USAR. As a result of this inability to maintain the system, a postulated Chapter 15 accident associated with a possible radiation waste tank failure required recalculation to demonstrate radiation safety for the public. The issue was placed in the licensee's corrective action program as CR 2011-07169, Plant Underdrain Groundwater Level Readings Non-Conservative Acceptance Criteria. The site took immediate actions to upgrade the installed system and is utilizing temporary manually operated pumps to assist the normally installed systems.

The performance deficiency was screened in accordance with IMC 0612, Appendix B, "Issue Screening" and determined to be more than minor. None of the IMC 0612, Appendix E examples described this scenario but the inspectors determined that if left uncorrected the performance deficiency had the potential to lead to a more significant radiological safety concern by creating a liquid effluent release path that was not evaluated for radiological dose impact to the public prior to discharge and thus was more than minor. The finding was reviewed for significance in accordance with IMC 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding affected the Public Radiation Safety cornerstone, Effluent Release Program. The finding was then reviewed for significance by the inspectors in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance. Specifically, the finding did not involve radioactive material control or the radiological environmental monitoring program. The finding was not a failure to implement the radiological effluent release program and public doses values were not greater than 10 CFR Part 50, Appendix I, criteria or 10 CFR 20.1301(e) criteria. The finding was associated with a cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area because the licensee did not thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions. Specifically, numerous deficiencies previously identified with the plant underdrain system were not addressed in enough detail to thoroughly evaluate the problem and extent of condition to allow the system to maintain the plant underground water table at USAR described levels.

Inspection Report# : [2011005 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 27, 2012

Identified By: NRC

Item Type: FIN Finding

Overall Finding Perry from Nuclear Plant 2012 Problem Identification and Resolution Inspection

On the basis of the activities selected for review, the team concluded that implementation of the problem and identification process and the corrective action program (CAP) at Perry Nuclear Plant had varying elements of effectiveness. The licensee normally had a low threshold for identifying problems and entering them in the CAP with some instances of condition reports not generated until after identification by the resident inspectors. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were evaluated commensurate with their safety significance. However, the thoroughness and effectiveness of some evaluations was found deficient by the team and by licensee audits and self-assessments. The issues with the effectiveness of evaluations including the effectiveness of identifying root and contributing causes, contributed to corrective actions not consistently correcting conditions. The team concluded the licensee's overall implementation of actions that correct issues and prevent recurrence of issues was marginally effective. The team noted that the licensee reviewed Operating Experience (OE) for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter nuclear safety concerns into the CAP or to report them to supervision.
Inspection Report# : [2012007 \(pdf\)](#)

Last modified : September 12, 2012

Perry 1

3Q/2012 Plant Inspection Findings

Initiating Events

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Significance: Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

FAILUR TO FOLLOW OPERATIONS PROCEDURES

The inspectors identified a finding of very low safety significance when the licensee failed to identify logged readings on the Daily Surveillance Requirements Sheets which were above Operational Decision Making Issue (ODMI) trigger points and subsequently failed to take actions in accordance with the ODMI. Specifically, from April 16 through April 26, 2012, the logged leak rate on the 5A feedwater heater drain valve line exceeded an ODMI trigger point and no action was taken by several different operating crews which were on watch over that time span. The issue was entered into the licensee's corrective action program as Condition Report 2012-06660.

The inspectors determined that the finding was more than minor because it is similar to example 4.h of Appendix E to IMC 0612 and it impacted the Human Performance attribute of the Initiating Events Cornerstone, adversely affecting the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In addition, if left uncorrected, this issue could lead to a more significant safety concern. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Planning (H.4(c)) component of the Human Performance cross cutting area because licensee supervisory personnel failed to make risk-significant decisions when faced with uncertain or unexpected plant conditions to ensure safety was maintained. Specifically, the licensee's supervisory oversight of the daily surveillance logs did not recognize readings above the ODMI trigger points and as a result, took no actions to correct an out of specification condition as logged for more than 10 days.

Inspection Report# : [2012003](#) ([pdf](#))

G

Significance: Jun 30, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

INADEQUATE LIFT PLANT CAUSES LIFING RIG FAILURE

A self-revealed finding of very low safety significance was identified when a rigging evolution in the fuel handling building resulted in suspension of an approximately 10,000 pound support column by only part of the planned lift rig. Specifically, on April 19, 2012, the licensee failed to develop an adequate lift plan in accordance with the licensee procedure. While lifting an approximately 10,000 pound column to the vertical position, the load developed a rolling motion and caused a lifting strap to part. Subsequently, as the load settled, the flat side of the baseplate impacted the fuel handling building floor. The licensee entered the issue into the corrective action program as Condition Report 2012-06153.

The finding was evaluated using IMC 0612, Appendix E and was not similar to any of the examples, but was

determined to be more than minor because if left uncorrected the safety concern would become more significant. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Practices (H.4(a)) component of the Human Performance cross-cutting area because licensee personnel proceeded in the face of uncertainty or unexpected consequences. Specifically, the licensee continued the attempted lift of the column despite indications that the load was not reacting as would be expected for a properly designed lifting rig attached to the column.

Inspection Report# : [2012003 \(pdf\)](#)

Significance: G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Transient Combustible Program

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.a for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to remove transient combustibles from the plant after they were no longer required to support a work activity. Upon discovery the licensee entered the issue into their corrective action program and removed the transient combustibles from the area.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored below safety-related Division 1 cables in cable trays and formed a credible fire scenario. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The finding did not have a cross-cutting aspect because it was isolated and not reflective of current performance.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: G Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

REACTOR MANUAL SCRAM ASSOCIATED WITH INADEQUATE MAINTENANCE RISK EVALUATION

A self-revealed finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4) was identified for failure to assess and manage risk associated with maintenance activities. Specifically, the licensee planned and conducted maintenance on a stator water cooling system pressure gauge on March 1, 2012, as a lower risk evolution than required, and conducted the maintenance online despite several decision points which indicated that this maintenance should have been conducted with the unit offline. When performed on line, the activity caused a reactor scram. The licensee entered the issue into the corrective action program as Condition Report 2012-03231.

The finding was evaluated using IMC 0612, Appendix E, "Examples of Minor Issues," and was determined to be more than minor because it is similar to Example 7.e and resulted in a reactor scram. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In accordance with IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk

Management Significance Determination Process," a Region III Senior Reactor Analyst performed an analysis of the risk deficit for the unevaluated condition associated with work on a stator water system pressure gauge resulting in a reactor scram. The Perry Standardized Plant Analysis Risk (SPAR) model version 8.15 and SAPHIRE version 8.0.7.18 was used to calculate an Incremental Core Damage Probability Deficit (ICDPD). The result was an ICDPD of less than 7E-8. The dominant core damage sequences involved: (1) loss of the main condenser, failure of suppression pool cooling, failure of containment spray, failure of the power conversion system, failure of containment venting, and failure of late injection; and (2) failure of the reactor protection system to shutdown the reactor with failure of the recirculation pumps to trip. In accordance with IMC 0609, Appendix K, because the calculated ICDPD was not greater than 1E-6, the finding was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect in the Work Planning (H.3(a)) component of the Human Performance cross-cutting area because the licensee did not incorporate appropriate risk insights into the development of the work package. Specifically, the licensee did not evaluate, during the planning phase of the work preparation, for the impact of re-installation of the pressure gauge and the potential for a pressure spike; a spike which caused a sustained runback of the main turbine generator with a resultant required action by the operators to manually scram the reactor.

Inspection Report# : [2012002 \(pdf\)](#)

Significance: SL-IV Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM

The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-

02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Protect Safety Related Equipment from Internal Flooding

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to ensure safety-related equipment would be adequately protected from internal flooding. Specifically, the licensee failed to adequately evaluate the volume of water originating from a postulated crack in service water (SW) piping within the control complex. This finding was entered into the licensee's corrective action program. The corrective actions included performing additional analyses, establishing compensatory measures, issuing procedure orders, and revising operating procedures.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Events cornerstone attribute of Equipment Performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase III Analysis, the inspectors determined the finding was of very low safety significance (Green). The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011008 \(pdf\)](#)

Significance: SL-IV Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Report Unanalyzed Condition Related to Internal Flooding

The inspectors identified a Severity Level IV violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Reactors," for failure to report within eight hours an unanalyzed condition that significantly degrades plant safety. Specifically, the licensee failed to notify NRC upon discovery of a postulated internal flood in the control complex could result in loss of single failure capability of safety-related equipment. This violation was entered into the licensee's corrective action program.

The performance deficiency was determined to involve a traditional enforcement violation because it potentially impeded or impacted the regulatory process. The traditional enforcement violation was determined to be more than minor because the information that was not provided through the event notification had a material impact on safety and licensed activities. The traditional enforcement violation was determined to be a Severity Level IV violation because the failure to report within eight hours an unanalyzed condition did not result

in an unacceptable change to the facility or procedures. An evaluation for cross-cutting aspect was not applicable because this was a traditional enforcement violation.

Inspection Report# : [2011008 \(pdf\)](#)

Mitigating Systems

Significance: G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Design Spray Density is Achieved

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure design spray density was achieved for the Unit 1 Division 2 cable chase area. Specifically, the placement of spray nozzles for cable trays did not ensure that the design spray density specified by design calculations would be achieved. The licensee entered the issue into their corrective action program and planned to evaluate their calculation and the actual water density required.

The inspectors determined that the finding was more than minor because the failure to ensure that the design spray density would be achieved resulted in the potential that a fire involving cable trays would not be suppressed. The finding was of very low safety significance due to a combination of low ignition frequencies for the area and only one train of equipment would be affected. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was an original design issue and not representative of current performance.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Sprinkler Piping Could be Drained

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure that sprinkler piping could be drained. Specifically, the licensee failed to install sprinkler piping in accordance with the standard for sprinkler systems which required that all sprinkler pipe and fittings shall be so installed that the system may be drained. The licensee entered the issue into their corrective action program and planned to further assess existing conditions of the piping and determine what changes are needed to ensure piping is drained after a system actuation.

The finding was determined to be more than minor because some corrosion of internal sprinkler piping was observed which could result in blockage of individual sprinkler heads or spray nozzles thereby reducing the effectiveness of the sprinkler system. This finding was of very low safety significance because the inspectors concluded that significantly less than 10 percent of the spray nozzles and sprinkler heads would be affected. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not evaluate relevant external operating experience. Specifically, the licensee had reviewed operating experience relating to blockage of pre-action sprinkler systems, but did not sufficiently evaluate the operating experience to recognize that it applied to the Perry Nuclear Power Plant.

Inspection Report# : [2012008 \(pdf\)](#)

G**Significance:** G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Install Sequential Timing Device for Fire Pumps

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to install a sequential timing device for the diesel driven fire pump. Specifically, the standard for fire pumps required that controllers for multiple pump units, such as those at the Perry Nuclear Power Plant, incorporate a sequential timing device to prevent any one pump starting simultaneously with any other pump. The licensee entered the issue into their corrective action program and initiated a modification to install a time delay for the pump.

The inspectors determined that the finding was more than minor because the failure to install a sequential timing device for the diesel driven fire pump could result in both fire pumps starting simultaneously and a significant water hammer which could damage fire protection piping or equipment. The finding was of very low safety significance due to a combination of low ignition frequencies for the affected areas and only one train of equipment would be affected for fires in those areas. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self and Independent Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed an Unresolved Item (URI) relating to this issue for another plant, but failed to identify that the Perry Nuclear Power Plant had the same configuration and requirements as described in the URI.

Inspection Report# : [2012008 \(pdf\)](#)**G****Significance:** G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Full Area Detection

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to provide detection throughout Fire Area 1CC-4a. Specifically, Fire Area 1CC-4a was described by the USAR as having an early warning detection system. However, the corridor area of Fire Area 1CC-4a lacked detection. The licensee entered the issue into their corrective action program and planned to evaluate a change to their detection system.

The inspectors determined that the finding was more than minor because the lack of detection in the corridor area of Fire Area 1CC-4a could result in delayed detection of a fire which, if unmitigated, could affect safety-related cables above the corridor area. The finding was of very low safety significance because the portion of Fire Area 1CC-4a which contained safety-related cables did have smoke detectors and a sprinkler/spray system. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self-Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed Fire Area 1CC-4a, but did not assess the design of systems in terms of the licensing basis.

Inspection Report# : [2012008 \(pdf\)](#)**G****Significance:** G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH A PROCEDURE TO PERFORM MAINTENANCE ON SAFETY-RELATED EQUIPMENT

The inspectors identified a finding of very low safety significance and associated NCV of TS 5.4.1.a for failure to implement a maintenance procedure for safety-related equipment required by Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)." Specifically, the licensee performed an internal inspection on the 'B'

train of the annulus exhaust gas treatment system (AEGTS) rendering the train inoperable. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program as condition report (CR) 2011-05530.

This performance deficiency was determined to be more than minor because it impacted the Procedure Quality attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as very low safety significance (Green) by answering ‘no’ to questions in the Mitigating Systems column of IMC 0609, Attachment 4, Table 4a, since the remaining train of AEGTS was operable and did not result in a loss of function for the impacted components, and the inoperable train was not inoperable for longer than allowed by TS. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross cutting area because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee did not evaluate the impact of performing the internal inspection on the operability of the system and utilized an operator to take action if the system was called upon to perform its design function.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

DIESEL GENERATOR ROOM'S FIRE PROTECTION SYSTEM CONCERN

The inspectors identified a finding of very low safety significance and associated NCV of License Condition 2.C.6 for the failure to install heat detectors in the emergency diesel generator (EDG) rooms in accordance with their listed approval. Specifically, the detectors were installed at a height of 24 feet, which was in excess of approved ceiling height without appropriate reduction of spacing for ceiling height. The licensee entered the issue into their corrective action program as CR 2011-06242 and planned to evaluate modifications to address the issue.

The finding was determined to be more than minor because the failure to install heat detectors in accordance with their listed approval was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the high installation height for the detectors without appropriate reduced detector spacing would result in requiring a larger fire and a delay in carbon dioxide system actuation. This finding was of very low safety significance using IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” because a fire involving an EDG would only affect the EDG involved in the fire due to the substantive fire barriers between the EDG rooms. The evaluated conditions were not significant risk contributors. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Control Circuit Voltage Calculation for Safety-Related Motor Starter Contactors

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control”, for failure to adequately evaluate the capability of motor control starter contactors to operate during design basis degraded voltage conditions. Specifically, the licensee did not analyze all circuit elements of resistance and failed to incorporate the latest results of calculated plant bus voltages.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, the licensee performed an operability evaluation taking into account all resistances in the circuit, the latest load flow analysis and test data and concluded there was sufficient voltage available. This finding has a cross-cutting aspect in the area of Resources for failure to ensure complete, accurate, and up-to-date design documentation, procedures, work packages and correct labeling of components.

Inspection Report# : [2011008 \(pdf\)](#)

Significance: Dec 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Test Safety-Related Contactors at Degraded Voltage Conditions

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to test safety-related motor starter contactors at design basis conditions. Specifically, the licensee failed to demonstrate the ability of ESW Pump 'A' discharge valve 1P45F0130A motor starter contactor to operate at minimum pickup voltage during design basis degraded voltage conditions. This finding was entered into the licensee's corrective action program.

The performance deficiency was determined to be more than minor because if left uncorrected it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability.

Specifically, after further evaluation, the licensee's engineering staff concluded the issue did not impact current operability because periodic testing for other type of contactors provided validation the valve motor contactor would operate when required for the postulated degraded voltage conditions. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution Corrective Action Program for failure to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2011008 \(pdf\)](#)

Barrier Integrity

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE EVALUATION OF CRANE SUPPORT STRUCTURE ELEMENTS

A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to provide adequate design control measures for crane support structure elements which included bridge crane rail, bridge crane rail clips, bridge crane rail clip studs, leveling plate and leveling plate anchors. Specifically, for evaluation of these structural elements, the licensee failed to demonstrate Seismic Category I compliance in accordance with their design and licensing basis and failed to evaluate the structural elements for resulting reaction forces from the Fuel Handling Building crane. The licensee documented these issues in CRs 11-88791; 11-90252; 10 86582; and 11-04124.

The performance deficiency was determined to be more than minor because if left uncorrected the performance deficiency could lead to a more significant safety concern if independent spent fuel storage installation (ISFSI) loading was conducted. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity cornerstone. Based on answering "No" to all the questions in the Barrier Integrity Cornerstone column of Table 4a, the finding was determined to be of very low safety significance (Green).

The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding, in that the licensee did not ensure effective supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have adequate oversight of design calculations and documentation for establishing structural adequacy of the rail, rail clips, rail clip bolts, leveling plate and leveling plate anchors.

Inspection Report# : [2011005 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specification 5.7.2 for the failure to appropriately barricade and conspicuously post an area that was accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 milliRem. Specifically, on May 7, 2012, NRC inspectors identified unposted and unbarricaded access points in the turbine building 557' catacomb area that permitted unencumbered access to locked high radiation areas in the steam affected areas under and on the turbine deck. This issue was entered into the licensee's corrective action program as Condition Report 2012-07583.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(g) in the guidance document. Using IMC 0609, Attachment C for the Occupational Radiation Safety Significance Determination Process (SDP), the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low As-Reasonably Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and (4) a compromised ability to assess dose. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the Perry Nuclear Power Plant corrective action program, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. Additionally, the primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in operating experience. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs (P.2 (b)).

Inspection Report# : [2012003 \(pdf\)](#)

W**Significance:** May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude),

which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
- b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013](#) (*pdf*)

Inspection Report# : [2011014 \(pdf\)](#)

Public Radiation Safety

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN THE PLANT UNDERDRAIN SYSTEM WITHIN USAR DESCRIBED CAPABILITIES

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to maintain the plant underdrain system as described in the Updated Safety Analysis Report (USAR) using adequate design control measures. Specifically, the inspectors determined that the plant underdrain system's condition was unable to support maintaining a design underground water table level of less than 568 feet with the automatic level detection and pumping system as described the USAR. As a result of this inability to maintain the system, a postulated Chapter 15 accident associated with a possible radiation waste tank failure required recalculation to demonstrate radiation safety for the public. The issue was placed in the licensee's corrective action program as CR 2011-07169, Plant Underdrain Groundwater Level Readings Non-Conservative Acceptance Criteria. The site took immediate actions to upgrade the installed system and is utilizing temporary manually operated pumps to assist the normally installed systems.

The performance deficiency was screened in accordance with IMC 0612, Appendix B, "Issue Screening" and determined to be more than minor. None of the IMC 0612, Appendix E examples described this scenario but the inspectors determined that if left uncorrected the performance deficiency had the potential to lead to a more significant radiological safety concern by creating a liquid effluent release path that was not evaluated for radiological dose impact to the public prior to discharge and thus was more than minor. The finding was reviewed for significance in accordance with IMC 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding affected the Public Radiation Safety cornerstone, Effluent Release Program. The finding was then reviewed for significance by the inspectors in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance. Specifically, the finding did not involve radioactive material control or the radiological environmental monitoring program. The finding was not a failure to implement the radiological effluent release program and public doses values were not greater than 10 CFR Part 50, Appendix I, criteria or 10 CFR 20.1301(e) criteria. The finding was associated with a cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area because the licensee did not thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions. Specifically, numerous deficiencies previously identified with the plant underdrain system were not addressed in enough detail to thoroughly evaluate the problem and extent of condition to allow the system to maintain the plant underground water table at USAR described levels.

Inspection Report# : [2011005 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary.

Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 27, 2012

Identified By: NRC

Item Type: FIN Finding

Overall Finding Perry from Nuclear Plant 2012 Problem Identification and Resolution Inspection

On the basis of the activities selected for review, the team concluded that implementation of the problem and identification process and the corrective action program (CAP) at Perry Nuclear Plant had varying elements of effectiveness. The licensee normally had a low threshold for identifying problems and entering them in the CAP with some instances of condition reports not generated until after identification by the resident inspectors. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were evaluated commensurate with their safety significance. However, the thoroughness and effectiveness of some evaluations was found deficient by the team and by licensee audits and self-assessments. The issues with the effectiveness of evaluations including the effectiveness of identifying root and contributing causes, contributed to corrective actions not consistently correcting conditions. The team concluded the licensee's overall implementation of actions that correct issues and prevent recurrence of issues was marginally effective. The team noted that the licensee reviewed Operating Experience (OE) for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter nuclear safety concerns into the CAP or to report them to supervision.

Inspection Report# : [2012007 \(pdf\)](#)

Last modified : November 30, 2012

Perry 1

4Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

FAILUR TO FOLLOW OPERATIONS PROCEDURES

The inspectors identified a finding of very low safety significance when the licensee failed to identify logged readings on the Daily Surveillance Requirements Sheets which were above Operational Decision Making Issue (ODMI) trigger points and subsequently failed to take actions in accordance with the ODMI. Specifically, from April 16 through April 26, 2012, the logged leak rate on the 5A feedwater heater drain valve line exceeded an ODMI trigger point and no action was taken by several different operating crews which were on watch over that time span. The issue was entered into the licensee's corrective action program as Condition Report 2012-06660.

The inspectors determined that the finding was more than minor because it is similar to example 4.h of Appendix E to IMC 0612 and it impacted the Human Performance attribute of the Initiating Events Cornerstone, adversely affecting the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In addition, if left uncorrected, this issue could lead to a more significant safety concern. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Planning (H.4(c)) component of the Human Performance cross cutting area because licensee supervisory personnel failed to make risk-significant decisions when faced with uncertain or unexpected plant conditions to ensure safety was maintained. Specifically, the licensee's supervisory oversight of the daily surveillance logs did not recognize readings above the ODMI trigger points and as a result, took no actions to correct an out of specification condition as logged for more than 10 days.

Inspection Report# : [2012003 \(pdf\)](#)

Significance: G Jun 30, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

INADEQUATE LIFT PLANT CAUSES LIFING RIG FAILURE

A self-revealed finding of very low safety significance was identified when a rigging evolution in the fuel handling building resulted in suspension of an approximately 10,000 pound support column by only part of the planned lift rig. Specifically, on April 19, 2012, the licensee failed to develop an adequate lift plan in accordance with the licensee procedure. While lifting an approximately 10,000 pound column to the vertical position, the load developed a rolling motion and caused a lifting strap to part. Subsequently, as the load settled, the flat side of the baseplate impacted the fuel handling building floor. The licensee entered the issue into the corrective action program as Condition Report 2012-06153.

The finding was evaluated using IMC 0612, Appendix E and was not similar to any of the examples, but was determined to be more than minor because if left uncorrected the safety concern would become more significant. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since

the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Practices (H.4(a)) component of the Human Performance cross-cutting area because licensee personnel proceeded in the face of uncertainty or unexpected consequences. Specifically, the licensee continued the attempted lift of the column despite indications that the load was not reacting as would be expected for a properly designed lifting rig attached to the column.

Inspection Report# : [2012003 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Transient Combustible Program

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.a for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to remove transient combustibles from the plant after they were no longer required to support a work activity. Upon discovery the licensee entered the issue into their corrective action program and removed the transient combustibles from the area.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored below safety-related Division 1 cables in cable trays and formed a credible fire scenario. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The finding did not have a cross-cutting aspect because it was isolated and not reflective of current performance.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

REACTOR MANUAL SCRAM ASSOCIATED WITH INADEQUATE MAINTENANCE RISK EVALUATION

A self-revealed finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4) was identified for failure to assess and manage risk associated with maintenance activities. Specifically, the licensee planned and conducted maintenance on a stator water cooling system pressure gauge on March 1, 2012, as a lower risk evolution than required, and conducted the maintenance online despite several decision points which indicated that this maintenance should have been conducted with the unit offline. When performed on line, the activity caused a reactor scram. The licensee entered the issue into the corrective action program as Condition Report 2012-03231.

The finding was evaluated using IMC 0612, Appendix E, "Examples of Minor Issues," and was determined to be more than minor because it is similar to Example 7.e and resulted in a reactor scram. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In accordance with IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," a Region III Senior Reactor Analyst performed an analysis of the risk deficit for the unevaluated condition associated with work on a stator water system pressure gauge resulting in a reactor scram. The Perry Standardized Plant Analysis Risk (SPAR) model version 8.15 and SAPHIRE version 8.0.7.18 was used to calculate an Incremental Core Damage Probability Deficit (ICDPD). The result was an ICDPD of less than 7E-8. The dominant core damage sequences involved: (1) loss of the main condenser, failure of suppression pool cooling, failure of containment spray, failure of the power conversion system, failure of containment venting, and failure of late injection; and (2) failure of the reactor protection system to shutdown the reactor with failure of the recirculation pumps to trip. In accordance with IMC 0609, Appendix K, because the calculated ICDPD was not greater than 1E-6, the finding was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect in the Work Planning (H.3(a)) component of the Human Performance cross-cutting area because the licensee did not incorporate appropriate risk insights into the development of the work package. Specifically, the

licensee did not evaluate, during the planning phase of the work preparation, for the impact of re-installation of the pressure gauge and the potential for a pressure spike; a spike which caused a sustained runback of the main turbine generator with a resultant required action by the operators to manually scram the reactor.

Inspection Report# : [2012002 \(pdf\)](#)

Mitigating Systems

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE PROCEDURES FOR RESTORING LPCI MODE OF RHR FOLLOWING A LOCA AT MODE 3

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to establish appropriate procedures capable of restoring low pressure coolant injection (LPCI) mode of residual heat removal (RHR), while in the shutdown cooling (SDC) mode, following a loss-of-coolant accident (LOCA) in Mode 3. Specifically, the licensee failed to prescribe procedures which ensured: (1) LPCI could be restored using only safety-related/seismic structures, systems and components; (2) no unanalyzed water hammer event occurred; (3) the equipment used for venting the system were appropriate; and (4) operator safety was maintained. This finding was entered into the licensee's corrective action program and the licensee instituted compensatory actions to declare RHR trains INOPERABLE while aligned to SDC. Additionally, procedures affected are prohibited from use while the plant is in Mode 3.

The performance deficiency was determined to be more than minor because, if left uncorrected it could have the potential to lead to a more significant safety concern. Specifically, the inspectors had concerns that procedures, as currently written, would have been unsuccessful in restoring LPCI. The finding screened as having a very low safety significance based on a Phase II Significance Determination Process evaluation. The result was a delta core damage frequency less than 1.0E-6/year. The inspectors determined this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not implement operating experience through changes to the station's process, procedures, and equipment. Specifically, the licensee's evaluation of Information Notice 2010-11 incorrectly concluded sufficient barriers were in place to prevent the occurrence of steam voiding in the RHR system (P.2(b)).

Inspection Report# : [2012005 \(pdf\)](#)

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

DEFICIENCIES WITH PERIODIC VENTING PROCEDURES AND VOID QUANTIFICATION

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure to ensure adequate test instrumentation was available and used during the performance of periodic venting. This finding was entered into the licensee's corrective action program and the licensee will revise the affected procedures to require the use of a timepiece.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of "Procedure Quality: Maintenance and Testing Procedures." Specifically, by not using adequate test instrumentation to measure the time gas was vented, the licensee introduced further uncertainty to an already inaccurate method. The finding screened as having very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, review of the licensee's corrective action program documents for resolution of Generic Letter 2008 01 determined that voids had been identified following system restoration (initial fill and vent) while the system was inoperable, and voids identified when the system was online had been significantly below the calculated acceptance criteria. This finding had a cross-

cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not thoroughly evaluate relevant external operating experience. Specifically, the licensee's evaluation of Nuclear Energy Institute 09-10, Revision 0, failed to identify the importance of having adequate venting time information when quantifying vented voids (P.2(a)).

Inspection Report# : [2012005 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Design Spray Density is Achieved

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure design spray density was achieved for the Unit 1 Division 2 cable chase area. Specifically, the placement of spray nozzles for cable trays did not ensure that the design spray density specified by design calculations would be achieved. The licensee entered the issue into their corrective action program and planned to evaluate their calculation and the actual water density required.

The inspectors determined that the finding was more than minor because the failure to ensure that the design spray density would be achieved resulted in the potential that a fire involving cable trays would not be suppressed. The finding was of very low safety significance due to a combination of low ignition frequencies for the area and only one train of equipment would be affected. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was an original design issue and not representative of current performance.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Sprinkler Piping Could be Drained

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure that sprinkler piping could be drained. Specifically, the licensee failed to install sprinkler piping in accordance with the standard for sprinkler systems which required that all sprinkler pipe and fittings shall be so installed that the system may be drained. The licensee entered the issue into their corrective action program and planned to further assess existing conditions of the piping and determine what changes are needed to ensure piping is drained after a system actuation.

The finding was determined to be more than minor because some corrosion of internal sprinkler piping was observed which could result in blockage of individual sprinkler heads or spray nozzles thereby reducing the effectiveness of the sprinkler system. This finding was of very low safety significance because the inspectors concluded that significantly less than 10 percent of the spray nozzles and sprinkler heads would be affected. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not evaluate relevant external operating experience. Specifically, the licensee had reviewed operating experience relating to blockage of pre-action sprinkler systems, but did not sufficiently evaluate the operating experience to recognize that it applied to the Perry Nuclear Power Plant.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Install Sequential Timing Device for Fire Pumps

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to install a sequential timing device for the diesel driven fire pump. Specifically, the standard for fire pumps required that controllers for multiple pump units, such as those at the Perry Nuclear Power Plant, incorporate a sequential timing device to prevent any one pump starting simultaneously with

any other pump. The licensee entered the issue into their corrective action program and initiated a modification to install a time delay for the pump.

The inspectors determined that the finding was more than minor because the failure to install a sequential timing device for the diesel driven fire pump could result in both fire pumps starting simultaneously and a significant water hammer which could damage fire protection piping or equipment. The finding was of very low safety significance due to a combination of low ignition frequencies for the affected areas and only one train of equipment would be affected for fires in those areas. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self and Independent Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed an Unresolved Item (URI) relating to this issue for another plant, but failed to identify that the Perry Nuclear Power Plant had the same configuration and requirements as described in the URI.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Full Area Detection

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to provide detection throughout Fire Area 1CC-4a. Specifically, Fire Area 1CC-4a was described by the USAR as having an early warning detection system. However, the corridor area of Fire Area 1CC-4a lacked detection. The licensee entered the issue into their corrective action program and planned to evaluate a change to their detection system.

The inspectors determined that the finding was more than minor because the lack of detection in the corridor area of Fire Area 1CC-4a could result in delayed detection of a fire which, if unmitigated, could affect safety-related cables above the corridor area. The finding was of very low safety significance because the portion of Fire Area 1CC-4a which contained safety-related cables did have smoke detectors and a sprinkler/spray system. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self-Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed Fire Area 1CC-4a, but did not assess the design of systems in terms of the licensing basis.

Inspection Report# : [2012008 \(pdf\)](#)

Barrier Integrity

Significance: Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL HANDLING BUILDING CRANE MAINTENANCE CHALLENGES SINGLE-FAILURE-PROOF COMPLIANCE

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed for the failure to perform adequate maintenance on the single-failure-proof fuel handling building (FHB) crane used to handle dry storage casks containing spent nuclear fuel. The licensee corrected the issue prior to conducting lifts containing spent nuclear fuel and entered it into their corrective action program (Condition Reports 2012-13234, 2012-13315, and 2012-12933).

The inspectors determined the performance deficiency was more than minor in that it affected the Human Performance attribute (maintenance performance) of the Barrier Integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radioactive releases caused by accidents or events. Additionally, if left uncorrected, a malfunction of the FHB crane could lead to a more significant safety concern. Based on answering "No" to all the screening questions in IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the finding was determined to be of very low safety-significance (Green). This finding

had a cross-cutting aspect in the area of Human Performance, Resources, because the licensee failed to have complete, accurate, and up-to-date procedures that ensured personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee failed to have maintenance procedures that ensured the FHB crane would be capable of performing its single failure proof design functions that assure nuclear safety (H.2 (c)).

Inspection Report# : [2012005 \(pdf\)](#)

Emergency Preparedness

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CLASSIFY AND UNUSUAL EVENT

The inspectors identified a finding of very low safety significance with an associated non-cited violation of 10 CFR 50.54(q)(2) for the failure to follow the Perry Nuclear Power Plant Emergency Plan that uses a standard emergency classification and action level scheme. Specifically, on June 7, 2012, Perry personnel failed to classify an Unusual Event for an unexpected increase in plant radiation levels when health physics surveys indicated an increase by a factor of 1000 times over normally expected area radiation levels. On June 14, 2012, the licensee initiated CR 2012-09729 to determine why an Unusual Event was not classified for the June 3, 2012, resin spill, and why there was a failure to classify the unexpected increase in plant radiation levels identified in surveys of the 574' elevation of the radwaste building on June 7. On November 29, 2012, the licensee initiated CR 2012-18622 to identify and investigate reasons for the Unusual Event requirements.

The failure to implement the emergency plan and classify an Unusual Event was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety-significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding had a cross-cutting in the area of Problem Identification and Resolution, Corrective Action Program, for evaluation and extent of condition (P.1c)). Specifically, Perry personnel failed to properly evaluate and classify an Unusual Event for the June 3, 2012, resin spill conditions in CR 2012-09447, dated June 7, 2012, and CR 2012-09729, dated June 14, 2012.

Inspection Report# : [2012005 \(pdf\)](#)

Occupational Radiation Safety

Significance: Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance and associated non-cited violation of 10 CFR 20.1501 was self-revealed for the failure of the licensee to make surveys to ensure compliance with 10 CFR 20.1601 and Technical Specification 5.7.2 from June 3 through June 7, 2012. Specifically, the licensee failed to evaluate the radiological conditions and potential radiological hazards associated with the spill of radioactive resins on the 574' elevation of the radioactive waste processing building that resulted in the failure to properly barricade and

conspicuously post the area as required by 10 CFR 20.1601 and Technical Specification 5.7.2. The area was found to be accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 millirem. Corrective actions included performing complete radiological surveys of the area, posting and controlling the area as required by licensee Technical Specifications. These actions were completed on June 7, 2012.

The inspectors determined that this finding was more than minor because it was associated with the program and process attribute of the Occupational Radiation Safety cornerstone and adversely affected the associated cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The inspectors reviewed the finding in accordance with Inspection Manual Chapter 0609, Appendix C, Occupational Radiation Safety Significance Determination Process, and determined that the finding was of very low safety significance because the finding did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or substantial potential for an overexposure, nor was the licensee's ability to assess worker dose compromised. The inspectors concluded that the most significant contributor to the finding was in the cross-cutting area of Human Performance with the component of decision making (H.1.(b)).

Inspection Report# : [2012005 \(pdf\)](#)

W

Significance: Sep 14, 2012

Identified By: NRC

Item Type: FIN Finding

Parallel White PI Finding

The inspectors identified a White parallel PI inspection finding for the failure to provide assurance that the corrective actions for performance issues associated with the Occupational Exposure Control Effectiveness PI were sufficient to address the root and contributing causes and to prevent recurrence. This finding has been entered into the licensee's Corrective Action Program (CAP) as Condition Report (CR)-2012-18695.

In accordance with IP 95002 and IMC 0305, "Operating Reactor Assessment Program," the parallel PI inspection finding is assigned the same safety significance as the initiating PI. Because the initiating PI had a low to moderate safety significance (White), this parallel inspection finding has been assigned a low to moderate safety significance (White). This finding was not assessed for cross-cutting aspects.

Inspection Report# : [2012009 \(pdf\)](#)

G

Significance: Sep 14, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Existing Plant Procedures

The inspectors identified a finding of very low safety significance and multiple examples of an associated NCV for failure to comply with Technical Specification (TS) 5.4.1. Specifically, the inspectors identified that the licensee failed to implement multiple procedural requirements associated with a spill of radioactive material in the Radioactive Waste Building. The failure to implement these procedural requirements occurred across multiple organizations (Radiation Protection, Work Control, and Operations). The licensee entered this issue into their CAP as CR-2012-09447.

The performance deficiency was determined to be more than minor because it could reasonably be viewed as a precursor to a significant event (lack of proper protection of workers from potential exposures), was related to the Programs and Process attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective to ensure the adequate protection of worker health and safety from exposure to radiation from radioactive material during routine reactor operation. Therefore, the performance deficiency was determined to be a finding or more than minor safety significance. The finding was not subject to traditional enforcement because it was not associated with a violation that impacted the regulatory process and did not contribute to actual safety consequences. The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and was determined to be of very low safety significance (Green) because it was not related to As-Low-As-Is-Reasonably-

Achievable (ALARA), did not result in an overexposure or a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose. This finding was associated with a cross-cutting aspect in the decision-making component of the human performance cross-cutting area. Specifically, the licensee failed to use conservative assumptions in their decisions affecting response to a radiological spill, which resulted in failure to adequately control the area for several days

Inspection Report# : [2012009 \(pdf\)](#)

Significance: Sep 14, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Appropriately Control Access to a Locked High Radiation Area

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.7.2 for the failure to control and establish barriers that would prevent unauthorized entry to an area that was accessible to personnel with radiation levels, such that a major portion of the whole body could receive in 1 hour, a dose greater than or equal to 1000 mRem. Specifically, the inspectors determined that the barriers used to control access to an identified Locked High Radiation Area (LHRA) around the work platform erected to support dry fuel storage cask loading and transport, did not provide reasonable assurance that the area was secure against unauthorized access and could not be circumvented. The licensee entered this issue into their CAP as CR-2012-14884. The licensee also took immediate corrective actions, which included posting an additional access control guard in the area, documenting Radiation Protection (RP) Manager standing orders for control of the area, controlling keys to operate the person-lift by the RP staff, and providing additional physical barriers to the lower areas of the scaffolding to prevent use of natural ladders of the scaffolding.

The performance deficiency was determined to be more than minor based on Example 6.g of IMC 0612, Appendix E, "Examples of Minor Issues," because LHRA conditions were actually present. As a result, the inspectors determined that the performance deficiency was a finding of more than minor safety significance. The finding was not subject to traditional enforcement because it was not associated with a violation that impacted the regulatory process and did not contribute to actual safety consequences. The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and was determined to be of very low safety significance (Green) because it was not related to ALARA, did not result in an overexposure or a substantial potential for overexposure, nor was the ability to assess dose compromised. This finding was associated with a cross-cutting aspect in the operating experience component of the problem identification and resolution cross cutting area. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment and training programs.

Inspection Report# : [2012009 \(pdf\)](#)

Significance: Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specification 5.7.2 for the failure to appropriately barricade and conspicuously post an area that was accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 milliRem. Specifically, on May 7, 2012, NRC inspectors identified unposted and unbarricaded access points in the turbine building 557' catacomb area that permitted unencumbered access to locked high radiation areas in the steam affected areas under and on the turbine deck. This issue was entered into the licensee's corrective action program as Condition Report 2012-07583.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(g) in the guidance document. Using IMC 0609, Attachment C for the Occupational Radiation Safety Significance Determination Process (SDP), the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low As-Reasonably Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3)

a substantial potential for an overexposure; and (4) a compromised ability to assess dose. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the Perry Nuclear Power Plant corrective action program, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. Additionally, the primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in operating experience. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs (P.2 (b)).

Inspection Report# : [2012003 \(pdf\)](#)

W

Significance: May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
- b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013 \(pdf\)](#)

Inspection Report# : [2011014 \(pdf\)](#)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 27, 2012

Identified By: NRC

Item Type: FIN Finding

Overall Finding Perry from Nuclear Plant 2012 Problem Identification and Resolution Inspection

On the basis of the activities selected for review, the team concluded that implementation of the problem and identification process and the corrective action program (CAP) at Perry Nuclear Plant had varying elements of effectiveness. The licensee normally had a low threshold for identifying problems and entering them in the CAP with some instances of condition reports not generated until after identification by the resident inspectors. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were evaluated commensurate with their safety significance. However, the thoroughness and effectiveness of some evaluations was found deficient by the team and by licensee audits and self-assessments. The issues with the effectiveness of evaluations including the effectiveness of identifying root and contributing causes, contributed to corrective actions not consistently correcting conditions. The team concluded the licensee's overall implementation of actions that correct issues and prevent recurrence of issues was marginally effective. The team noted that the licensee reviewed Operating Experience (OE) for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter nuclear safety concerns into the CAP or to report them to supervision.

Inspection Report# : [2012007 \(pdf\)](#)

Last modified : February 28, 2013

Perry 1

1Q/2013 Plant Inspection Findings

Initiating Events

G

Significance: Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

FAILUR TO FOLLOW OPERATIONS PROCEDURES

The inspectors identified a finding of very low safety significance when the licensee failed to identify logged readings on the Daily Surveillance Requirements Sheets which were above Operational Decision Making Issue (ODMI) trigger points and subsequently failed to take actions in accordance with the ODMI. Specifically, from April 16 through April 26, 2012, the logged leak rate on the 5A feedwater heater drain valve line exceeded an ODMI trigger point and no action was taken by several different operating crews which were on watch over that time span. The issue was entered into the licensee's corrective action program as Condition Report 2012-06660.

The inspectors determined that the finding was more than minor because it is similar to example 4.h of Appendix E to IMC 0612 and it impacted the Human Performance attribute of the Initiating Events Cornerstone, adversely affecting the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In addition, if left uncorrected, this issue could lead to a more significant safety concern. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Planning (H.4(c)) component of the Human Performance cross cutting area because licensee supervisory personnel failed to make risk-significant decisions when faced with uncertain or unexpected plant conditions to ensure safety was maintained. Specifically, the licensee's supervisory oversight of the daily surveillance logs did not recognize readings above the ODMI trigger points and as a result, took no actions to correct an out of specification condition as logged for more than 10 days.

Inspection Report# : [2012003](#) ([pdf](#))

G

Significance: Jun 30, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

INADEQUATE LIFT PLANT CAUSES LIFING RIG FAILURE

A self-revealed finding of very low safety significance was identified when a rigging evolution in the fuel handling building resulted in suspension of an approximately 10,000 pound support column by only part of the planned lift rig. Specifically, on April 19, 2012, the licensee failed to develop an adequate lift plan in accordance with the licensee procedure. While lifting an approximately 10,000 pound column to the vertical position, the load developed a rolling motion and caused a lifting strap to part. Subsequently, as the load settled, the flat side of the baseplate impacted the fuel handling building floor. The licensee entered the issue into the corrective action program as Condition Report 2012-06153.

The finding was evaluated using IMC 0612, Appendix E and was not similar to any of the examples, but was

determined to be more than minor because if left uncorrected the safety concern would become more significant. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Practices (H.4(a)) component of the Human Performance cross-cutting area because licensee personnel proceeded in the face of uncertainty or unexpected consequences. Specifically, the licensee continued the attempted lift of the column despite indications that the load was not reacting as would be expected for a properly designed lifting rig attached to the column.

Inspection Report# : [2012003 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Transient Combustible Program

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.a for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to remove transient combustibles from the plant after they were no longer required to support a work activity. Upon discovery the licensee entered the issue into their corrective action program and removed the transient combustibles from the area.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored below safety-related Division 1 cables in cable trays and formed a credible fire scenario. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The finding did not have a cross-cutting aspect because it was isolated and not reflective of current performance.

Inspection Report# : [2012008 \(pdf\)](#)

Mitigating Systems

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE PROCEDURES FOR RESTORING LPCI MODE OF RHR FOLLOWING A LOCA AT MODE 3

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to establish appropriate procedures capable of restoring low pressure coolant injection (LPCI) mode of residual heat removal (RHR), while in the shutdown cooling (SDC) mode, following a loss-of-coolant accident (LOCA) in Mode 3. Specifically, the licensee failed to prescribe procedures which ensured: (1) LPCI could be restored using only safety-related/seismic structures, systems and components; (2) no unanalyzed water hammer event occurred; (3) the equipment used for venting the system were appropriate; and (4) operator safety was maintained. This finding was entered into the licensee's

corrective action program and the licensee instituted compensatory actions to declare RHR trains INOPERABLE while aligned to SDC. Additionally, procedures affected are prohibited from use while the plant is in Mode 3.

The performance deficiency was determined to be more than minor because, if left uncorrected it could have the potential to lead to a more significant safety concern. Specifically, the inspectors had concerns that procedures, as currently written, would have been unsuccessful in restoring LPCI. The finding screened as having a very low safety significance based on a Phase II Significance Determination Process evaluation. The result was a delta core damage frequency less than 1.0E-6/year. The inspectors determined this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not implement operating experience through changes to the station's process, procedures, and equipment. Specifically, the licensee's evaluation of Information Notice 2010-11 incorrectly concluded sufficient barriers were in place to prevent the occurrence of steam voiding in the RHR system (P.2(b)).

Inspection Report# : [2012005 \(pdf\)](#)

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

DEFICIENCIES WITH PERIODIC VENTING PROCEDURES AND VOID QUANTIFICATION

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure to ensure adequate test instrumentation was available and used during the performance of periodic venting. This finding was entered into the licensee's corrective action program and the licensee will revise the affected procedures to require the use of a timepiece.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of "Procedure Quality: Maintenance and Testing Procedures." Specifically, by not using adequate test instrumentation to measure the time gas was vented, the licensee introduced further uncertainty to an already inaccurate method. The finding screened as having very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, review of the licensee's corrective action program documents for resolution of Generic Letter 2008 01 determined that voids had been identified following system restoration (initial fill and vent) while the system was inoperable, and voids identified when the system was online had been significantly below the calculated acceptance criteria. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not thoroughly evaluate relevant external operating experience. Specifically, the licensee's evaluation of Nuclear Energy Institute 09-10, Revision 0, failed to identify the importance of having adequate venting time information when quantifying vented voids (P.2(a)).

Inspection Report# : [2012005 \(pdf\)](#)

Significance: Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Design Spray Density is Achieved

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure design spray density was achieved for the Unit 1 Division 2 cable chase area. Specifically, the placement of spray nozzles for cable trays did not ensure that the design spray density specified by design calculations would be achieved. The licensee entered the issue into their corrective action program and planned to evaluate their calculation and the actual water density required.

The inspectors determined that the finding was more than minor because the failure to ensure that the design spray density would be achieved resulted in the potential that a fire involving cable trays would not be suppressed. The finding was of very low safety significance due to a combination of low ignition frequencies for the area and only one train of equipment would be affected. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was an original design issue and not representative of current performance.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Sprinkler Piping Could be Drained

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure that sprinkler piping could be drained. Specifically, the licensee failed to install sprinkler piping in accordance with the standard for sprinkler systems which required that all sprinkler pipe and fittings shall be so installed that the system may be drained. The licensee entered the issue into their corrective action program and planned to further assess existing conditions of the piping and determine what changes are needed to ensure piping is drained after a system actuation.

The finding was determined to be more than minor because some corrosion of internal sprinkler piping was observed which could result in blockage of individual sprinkler heads or spray nozzles thereby reducing the effectiveness of the sprinkler system. This finding was of very low safety significance because the inspectors concluded that significantly less than 10 percent of the spray nozzles and sprinkler heads would be affected. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not evaluate relevant external operating experience. Specifically, the licensee had reviewed operating experience relating to blockage of pre-action sprinkler systems, but did not sufficiently evaluate the operating experience to recognize that it applied to the Perry Nuclear Power Plant.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: G Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Install Sequential Timing Device for Fire Pumps

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to install a sequential timing device for the diesel driven fire pump.

Specifically, the standard for fire pumps required that controllers for multiple pump units, such as those at the Perry Nuclear Power Plant, incorporate a sequential timing device to prevent any one pump starting simultaneously with any other pump. The licensee entered the issue into their corrective action program and initiated a modification to install a time delay for the pump.

The inspectors determined that the finding was more than minor because the failure to install a sequential timing device for the diesel driven fire pump could result in both fire pumps starting simultaneously and a significant water hammer which could damage fire protection piping or equipment. The finding was of very low safety significance due to a combination of low ignition frequencies for the affected areas and only one train of equipment would be affected for fires in those areas. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self and Independent Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed an Unresolved Item (URI) relating to this issue for another plant, but failed to identify that the Perry Nuclear Power Plant had the same configuration and requirements as described in the URI.

Inspection Report# : [2012008 \(pdf\)](#)

G**Significance:** Apr 13, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Full Area Detection

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to provide detection throughout Fire Area 1CC-4a. Specifically, Fire Area 1CC-4a was described by the USAR as having an early warning detection system. However, the corridor area of Fire Area 1CC-4a lacked detection. The licensee entered the issue into their corrective action program and planned to evaluate a change to their detection system.

The inspectors determined that the finding was more than minor because the lack of detection in the corridor area of Fire Area 1CC-4a could result in delayed detection of a fire which, if unmitigated, could affect safety-related cables above the corridor area. The finding was of very low safety significance because the portion of Fire Area 1CC-4a which contained safety-related cables did have smoke detectors and a sprinkler/spray system. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self-Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed Fire Area 1CC-4a, but did not assess the design of systems in terms of the licensing basis.

Inspection Report# : [2012008 \(pdf\)](#)

Barrier Integrity

G**Significance:** Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL HANDLING BUILDING CRANE MAINTENANCE CHALLENGES SINGLE-FAILURE-PROOF COMPLIANCE

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed for the failure to perform adequate maintenance on the single-failure-proof fuel handling building (FHB) crane used to handle dry storage casks containing spent nuclear fuel. The licensee corrected the issue prior to conducting lifts containing spent nuclear fuel and entered it into their corrective action program (Condition Reports 2012-13234, 2012-13315, and 2012-12933).

The inspectors determined the performance deficiency was more than minor in that it affected the Human Performance attribute (maintenance performance) of the Barrier Integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radioactive releases caused by accidents or events. Additionally, if left uncorrected, a malfunction of the FHB crane could lead to a more significant safety concern. Based on answering "No" to all the screening questions in IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the finding was determined to be of very low safety-significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Resources, because the licensee failed to have complete, accurate, and up-to-date procedures that ensured personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee failed to have maintenance procedures that ensured the FHB crane would be capable of performing its single failure proof design functions that assure nuclear safety (H.2 (c)).

Inspection Report# : [2012005 \(pdf\)](#)

Emergency Preparedness

G**Significance:** Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CLASSIFY AND UNUSUAL EVENT

The inspectors identified a finding of very low safety significance with an associated non-cited violation of 10 CFR 50.54(q)(2) for the failure to follow the Perry Nuclear Power Plant Emergency Plan that uses a standard emergency classification and action level scheme. Specifically, on June 7, 2012, Perry personnel failed to classify an Unusual Event for an unexpected increase in plant radiation levels when health physics surveys indicated an increase by a factor of 1000 times over normally expected area radiation levels. On June 14, 2012, the licensee initiated CR 2012-09729 to determine why an Unusual Event was not classified for the June 3, 2012, resin spill, and why there was a failure to classify the unexpected increase in plant radiation levels identified in surveys of the 574' elevation of the radwaste building on June 7. On November 29, 2012, the licensee initiated CR 2012-18622 to identify and investigate reasons for the Unusual Event requirements.

The failure to implement the emergency plan and classify an Unusual Event was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety-significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding had a cross-cutting in the area of Problem Identification and Resolution, Corrective Action Program, for evaluation and extent of condition (P.1c)). Specifically, Perry personnel failed to properly evaluate and classify an Unusual Event for the June 3, 2012, resin spill conditions in CR 2012-09447, dated June 7, 2012, and CR 2012-09729, dated June 14, 2012.

Inspection Report# : [2012005 \(pdf\)](#)

Occupational Radiation Safety

G**Significance:** Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance and associated non-cited violation of 10 CFR 20.1501 was self-revealed for the failure of the licensee to make surveys to ensure compliance with 10 CFR 20.1601 and Technical Specification 5.7.2 from June 3 through June 7, 2012. Specifically, the licensee failed to evaluate the radiological conditions and potential radiological hazards associated with the spill of radioactive resins on the 574' elevation of the radioactive waste processing building that resulted in the failure to properly barricade and conspicuously post the area as required by 10 CFR 20.1601 and Technical Specification 5.7.2. The area was found to be accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 millirem. Corrective actions included performing complete radiological surveys of

the area, posting and controlling the area as required by licensee Technical Specifications. These actions were completed on June 7, 2012.

The inspectors determined that this finding was more than minor because it was associated with the program and process attribute of the Occupational Radiation Safety cornerstone and adversely affected the associated cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The inspectors reviewed the finding in accordance with Inspection Manual Chapter 0609, Appendix C, Occupational Radiation Safety Significance Determination Process, and determined that the finding was of very low safety significance because the finding did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or substantial potential for an overexposure, nor was the licensee's ability to assess worker dose compromised. The inspectors concluded that the most significant contributor to the finding was in the cross-cutting area of Human Performance with the component of decision making (H.1.(b)).

Inspection Report# : [2012005 \(pdf\)](#)

W

Significance: Sep 14, 2012

Identified By: NRC

Item Type: FIN Finding

Parallel White PI Finding (EA 2012-228)

The inspectors identified a White parallel PI inspection finding for the failure to provide assurance that the corrective actions for performance issues associated with the Occupational Exposure Control Effectiveness PI were sufficient to address the root and contributing causes and to prevent recurrence. This finding has been entered into the licensee's Corrective Action Program (CAP) as Condition Report (CR)-2012-18695.

In accordance with IP 95002 and IMC 0305, "Operating Reactor Assessment Program," the parallel PI inspection finding is assigned the same safety significance as the initiating PI. Because the initiating PI had a low to moderate safety significance (White), this parallel inspection finding has been assigned a low to moderate safety significance (White). This finding was not assessed for cross-cutting aspects.

Inspection Report# : [2012009 \(pdf\)](#)

G

Significance: Sep 14, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Existing Plant Procedures

The inspectors identified a finding of very low safety significance and multiple examples of an associated NCV for failure to comply with Technical Specification (TS) 5.4.1. Specifically, the inspectors identified that the licensee failed to implement multiple procedural requirements associated with a spill of radioactive material in the Radioactive Waste Building. The failure to implement these procedural requirements occurred across multiple organizations (Radiation Protection, Work Control, and Operations). The licensee entered this issue into their CAP as CR-2012-09447.

The performance deficiency was determined to be more than minor because it could reasonably be viewed as a precursor to a significant event (lack of proper protection of workers from potential exposures), was related to the Programs and Process attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective to ensure the adequate protection of worker health and safety from exposure to radiation from radioactive material during routine reactor operation. Therefore, the performance deficiency was determined to be a finding or more than minor safety significance. The finding was not subject to traditional enforcement because it was not associated with a violation that impacted the regulatory process and did not contribute to actual safety

consequences. The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and was determined to be of very low safety significance (Green) because it was not related to As-Low-As-Is-Reasonably-Achievable (ALARA), did not result in an overexposure or a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose. This finding was associated with a cross-cutting aspect in the decision-making component of the human performance cross-cutting area. Specifically, the licensee failed to use conservative assumptions in their decisions affecting response to a radiological spill, which resulted in failure to adequately control the area for several days

Inspection Report# : [2012009 \(pdf\)](#)

Significance: Sep 14, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Appropriately Control Access to a Locked High Radiation Area

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.7.2 for the failure to control and establish barriers that would prevent unauthorized entry to an area that was accessible to personnel with radiation levels, such that a major portion of the whole body could receive in 1 hour, a dose greater than or equal to 1000 mRem. Specifically, the inspectors determined that the barriers used to control access to an identified Locked High Radiation Area (LHRA) around the work platform erected to support dry fuel storage cask loading and transport, did not provide reasonable assurance that the area was secure against unauthorized access and could not be circumvented. The licensee entered this issue into their CAP as CR-2012-14884. The licensee also took immediate corrective actions, which included posting an additional access control guard in the area, documenting Radiation Protection (RP) Manager standing orders for control of the area, controlling keys to operate the person-lift by the RP staff, and providing additional physical barriers to the lower areas of the scaffolding to prevent use of natural ladders of the scaffolding.

The performance deficiency was determined to be more than minor based on Example 6.g of IMC 0612, Appendix E, "Examples of Minor Issues," because LHRA conditions were actually present. As a result, the inspectors determined that the performance deficiency was a finding of more than minor safety significance. The finding was not subject to traditional enforcement because it was not associated with a violation that impacted the regulatory process and did not contribute to actual safety consequences. The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and was determined to be of very low safety significance (Green) because it was not related to ALARA, did not result in an overexposure or a substantial potential for overexposure, nor was the ability to assess dose compromised. This finding was associated with a cross-cutting aspect in the operating experience component of the problem identification and resolution cross cutting area. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment and training programs.

Inspection Report# : [2012009 \(pdf\)](#)

Significance: Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specification 5.7.2 for the failure to appropriately barricade and conspicuously post an area that was accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 milliRem. Specifically, on May 7, 2012, NRC inspectors identified unposted and unbarricaded access points in the turbine building 557' catacomb area that permitted unencumbered access to locked high radiation areas in the steam affected areas under and on the turbine deck. This issue was entered into the licensee's corrective action

program as Condition Report 2012-07583.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(g) in the guidance document. Using IMC 0609, Attachment C for the Occupational Radiation Safety Significance Determination Process (SDP), the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low As-Reasonably Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and (4) a compromised ability to assess dose. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the Perry Nuclear Power Plant corrective action program, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. Additionally, the primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in operating experience. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs (P.2 (b)).

Inspection Report# : [2012003 \(pdf\)](#)

W **Significance:** May 25, 2011

Identified By: NRC

Item Type: VIO Violation

The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)

The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential

radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude), which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

- a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.
- b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are

reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.

Inspection Report# : [2011013 \(pdf\)](#)

Inspection Report# : [2011014 \(pdf\)](#)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : June 04, 2013

Perry 1

2Q/2013 Plant Inspection Findings

Initiating Events

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedure Appropriate to the Circumstances Leads to Reactor Overfeed Event

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when the licensee failed to perform a procedure that was appropriate to the circumstances. Specifically, on May 12, 2013, work instruction PTI N27-P0012, Revision 5, was performed when the condition of the plant, i.e., the specific configuration of the feedwater system and the relatively low reactor pressure, was incapable of supporting the test and resulted in a reactor overfill event. The issue was entered into the corrective action program as condition report 2013-07473. The licensee performed an apparent cause evaluation to identify the most likely causal factors, citing the inadequacy of the procedure and the lack of proper planning as contributing causes.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Initiating Events Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work control, for the licensee's failure to plan work activities such that they could be performed while the plant was in an appropriate operational condition. Specifically, the licensee rescheduled the activity without performing an adequate impact review of the different plant conditions on the activity.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO PERFORM VENDOR RECOMMENDED PREVENTIVE MAINTENANCE ON THE BALANCE-OF-PLANT STATIC TRANSFER SWITCH

A self-revealed finding of very low safety significance was identified for the licensee's failure to implement recommended preventive maintenance on a balance-of-plant (BOP) inverter and static transfer switch. Specifically, the licensee failed to implement vendor-recommended preventive maintenance requirements to replace circuit cards in both a BOP inverter and an associated static transfer switch every twelve and ten years, respectively. No violation of NRC regulatory requirements was identified because the performance deficiency involved nonsafety-related equipment. The licensee entered this issue into the corrective action program as Condition Report 2013-00954.

The inspectors determined that the failure to perform preventive maintenance on the failed BOP inverter and static transfer switch in accordance with vendor recommendations was a performance deficiency. The performance deficiency was evaluated using Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated

September 7, 2012, and was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit

the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was evaluated using IMC 0609, dated June 2, 2011, and IMC 0609, Attachment 0609.04, dated

June 19, 2012, and IMC 0609, Appendix A, Exhibit 1 – Initiating Events Screening Questions, dated June 19, 2012. In answering “no” to “B. Transient Initiators, ‘Did the finding cause a reactor trip AND the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition?’,” the inspectors determined that the finding was of very low safety significance (Green). The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component in that the licensee failed to thoroughly evaluate problems such that the resolution addressed the causes. Specifically, the licensee had previously identified the reliability of the BOP inverter and static transfer switch as the cause for previous feedwater-related events but failed to implement recommended corrective actions to prevent future events (P.1(c)).

Inspection Report# : [2013002](#) ([pdf](#))

Mitigating Systems

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE RESULTED IN LOSS OF HIGH-PRESSURE CORE SPRAY FUNCTION

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., “Procedures,” was identified for the licensee’s failure to establish and maintain a correct surveillance inspection procedure for high-pressure core spray (HPCS) emergency core cooling systems integrated testing. The surveillance procedure used for the HPCS, safety-related electrical bus, EH13, testing during refueling outage 14, directly resulted in an unplanned outage of the bus for nearly 4 hours. The licensee entered the issue into the corrective action program as Condition Report 2013-03863.

The inspectors determined that the failure to develop a correct surveillance procedure required by Technical Specification 5.4.1 a. was a performance deficiency and resulted in an unplanned loss of the EH13 safety-related electric bus and caused a loss of function for HPCS. The performance deficiency was determined to be more than minor, and thus a finding, using IMC 0612, Appendix B, “Issue Screening,” dated September 7, 2012, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2 – Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors answered “yes” to Question 2, “Does the finding represent a loss of system and/or function?” A detailed risk evaluation was conducted by the Region III Senior Reactor Analyst (SRA). The SRA performed an evaluation using the NRC’s Standardized Plant Analysis Risk model for Perry. The SRA assumed that EH13 was unavailable for 4 hours. The change in core damage frequency was estimated to be much less than 1E-6/yr, which represents a finding of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance associated with the work control component, in that, the licensee failed to appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope or activities which could affect the plant. Specifically, the development of a new surveillance procedure did not correctly predict

the plant response for the safety-related system test lineup and resulted in an unplanned loss of the EH13 safety-related electric bus (H.3(b)).

Inspection Report# : [2013002](#) ([pdf](#))

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

VALVE MIS-POSITION CAUSES SDV LEVEL DETECTOR INOPERABILITY

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to correctly implement a surveillance procedure for calibration of a scram discharge volume (SDV) level detector. Specifically, licensee technicians failed to open and lock open, with independent verification, the lower isolation valve to an SDV level detector. The licensee documented the issue in the corrective action program as Condition Report 2013-04452.

The inspectors determined that the failure to correctly complete the procedure and lock open the lower isolation valve was a performance deficiency which resulted in a locked in scram signal with a resulting inability to clear the signal and restore safety-related systems after the scram (to begin a refueling outage) for several days. The performance deficiency was evaluated under Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and determined to be more than minor, and thus a finding, because it was associated with the human performance attribute of the Mitigating Systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. By answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined this finding was of very low safety significance because the finding did not affect other diverse methods of reactor shutdown, it did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that the licensee communicates human error prevention techniques, that techniques are used commensurate with the risk of the assigned task, and personnel do not proceed in the face of uncertainty or unexpected circumstances. Specifically, the independent verifier found the valve in an unexpected condition with a locking device already installed, did not stop the process and question the valve position, but proceeded in the face of uncertainty (H.4(a))

Inspection Report# : [2013002](#) ([pdf](#))

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR CONDUCTING A STANDBY LIQUID CONTROL SYSTEM SURVEILLANCE

A self-revealed finding of very low safety significance and associated non cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the licensee failed to correctly implement procedures for testing safety related equipment. Specifically, the licensee failed to correctly implement prerequisite steps in a surveillance instruction, causing the standby liquid control (SLC) pump 'A' plunger pot drain valves to be left open, contrary to procedure. The licensee entered the finding into the corrective action program as Condition Report 2013-00114 and took immediate action to close the valves when leakage was discovered from the drain valve tailpipes.

The inspectors determined that the failure to correctly complete the prerequisite steps in surveillance instruction

(SVI)-C41-T2001-A was a performance deficiency which resulted in a water spill in containment, an associated lockup of the rod control and information system (RCIS), and required the licensee to enter two off-normal instructions (ONIs). The performance deficiency was determined to be more than minor, and thus a finding, using Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, because it is similar to Example 4.b and resulted in an unexpected, "Inhibit Rod Motion RCIS OOS," alarm and caused the operating crew to enter ONI-C11-1, "Inability to Move Control Rods." The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. In answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined that the finding was of very low safety significance because the finding did not affect a reactor protection system trip signal, did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that licensee personnel failed to use human error prevention techniques, such as holding a pre-job briefing, self and peer checking, and proper documentation of activities. Specifically, the operation to position the plunger pot drain valves on the 'A' and 'B' SLC pumps was not coordinated by the field supervisor in accordance with the SVI and operations personnel proceeded in the face of uncertainty or unexpected circumstances (H.4(a)).

Inspection Report# : [2013002 \(pdf\)](#)

G

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE PROCEDURES FOR RESTORING LPCI MODE OF RHR FOLLOWING A LOCA AT MODE 3

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to establish appropriate procedures capable of restoring low pressure coolant injection (LPCI) mode of residual heat removal (RHR), while in the shutdown cooling (SDC) mode, following a loss-of-coolant accident (LOCA) in Mode 3. Specifically, the licensee failed to prescribe procedures which ensured: (1) LPCI could be restored using only safety-related/seismic structures, systems and components; (2) no unanalyzed water hammer event occurred; (3) the equipment used for venting the system were appropriate; and (4) operator safety was maintained. This finding was entered into the licensee's corrective action program and the licensee instituted compensatory actions to declare RHR trains INOPERABLE while aligned to SDC. Additionally, procedures affected are prohibited from use while the plant is in Mode 3.

The performance deficiency was determined to be more than minor because, if left uncorrected it could have the potential to lead to a more significant safety concern. Specifically, the inspectors had concerns that procedures, as currently written, would have been unsuccessful in restoring LPCI. The finding screened as having a very low safety significance based on a Phase II Significance Determination Process evaluation. The result was a delta core damage frequency less than 1.0E-6/year. The inspectors determined this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not implement operating experience through changes to the station's process, procedures, and equipment. Specifically, the licensee's evaluation of Information Notice 2010-11 incorrectly concluded sufficient barriers were in place to prevent the occurrence of steam voiding in the RHR system (P.2(b)).

Inspection Report# : [2012005 \(pdf\)](#)

G

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

DEFICIENCIES WITH PERIODIC VENTING PROCEDURES AND VOID QUANTIFICATION

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure to ensure adequate test instrumentation was available and used during the performance of periodic venting. This finding was entered into the licensee's corrective action program and the licensee will revise the affected procedures to require the use of a timepiece.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of "Procedure Quality: Maintenance and Testing Procedures." Specifically, by not using adequate test instrumentation to measure the time gas was vented, the licensee introduced further uncertainty to an already inaccurate method. The finding screened as having very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, review of the licensee's corrective action program documents for resolution of Generic Letter 2008 01 determined that voids had been identified following system restoration (initial fill and vent) while the system was inoperable, and voids identified when the system was online had been significantly below the calculated acceptance criteria. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not thoroughly evaluate relevant external operating experience. Specifically, the licensee's evaluation of Nuclear Energy Institute 09-10, Revision 0, failed to identify the importance of having adequate venting time information when quantifying vented voids (P.2(a)).

Inspection Report# : [2012005 \(pdf\)](#)

Barrier Integrity

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedural Requirements for RWCU System Fill and Vent

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was self revealed when the licensee failed to adhere to procedural requirements during the filling and venting of the reactor water cleanup (RWCU) system. Specifically, on April 26, 2013, valves 1G33-F008A and F556A were left in the open position, contrary to the requirements of step 7.16.9 of procedure SOI-G33, revision 36, and resulted in the RWCU system being aligned to the condensate transfer and storage system. This valve misposition event also resulted in the TS 3.6.1.3 inoperability of the containment isolation valve 1P11F0545. Upon discovery of the condition, the licensee promptly corrected the error and the entered the condition into its corrective action program as condition report 2013 07483, and performed an apparent cause evaluation.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Barrier Integrity Cornerstone attribute of configuration control and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work practices, for the licensee's failure to successfully incorporate human error prevention techniques, such as self and peer checks.

Inspection Report# : [2013009 \(pdf\)](#)

G**Significance:** Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL HANDLING BUILDING CRANE MAINTENANCE CHALLENGES SINGLE-FAILURE-PROOF COMPLIANCE

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed for the failure to perform adequate maintenance on the single-failure-proof fuel handling building (FHB) crane used to handle dry storage casks containing spent nuclear fuel. The licensee corrected the issue prior to conducting lifts containing spent nuclear fuel and entered it into their corrective action program (Condition Reports 2012-13234, 2012-13315, and 2012-12933).

The inspectors determined the performance deficiency was more than minor in that it affected the Human Performance attribute (maintenance performance) of the Barrier Integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radioactive releases caused by accidents or events. Additionally, if left uncorrected, a malfunction of the FHB crane could lead to a more significant safety concern. Based on answering "No" to all the screening questions in IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the finding was determined to be of very low safety-significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Resources, because the licensee failed to have complete, accurate, and up-to-date procedures that ensured personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee failed to have maintenance procedures that ensured the FHB crane would be capable of performing its single failure proof design functions that assure nuclear safety (H.2 (c)).

Inspection Report# : [2012005 \(pdf\)](#)

Emergency Preparedness

G**Significance:** Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CLASSIFY AND UNUSUAL EVENT

The inspectors identified a finding of very low safety significance with an associated non-cited violation of 10 CFR 50.54(q)(2) for the failure to follow the Perry Nuclear Power Plant Emergency Plan that uses a standard emergency classification and action level scheme. Specifically, on June 7, 2012, Perry personnel failed to classify an Unusual Event for an unexpected increase in plant radiation levels when health physics surveys indicated an increase by a factor of 1000 times over normally expected area radiation levels. On June 14, 2012, the licensee initiated CR 2012-09729 to determine why an Unusual Event was not classified for the June 3, 2012, resin spill, and why there was a failure to classify the unexpected increase in plant radiation levels identified in surveys of the 574' elevation of the radwaste building on June 7. On November 29, 2012, the licensee initiated CR 2012-18622 to identify and investigate reasons for the Unusual Event requirements.

The failure to implement the emergency plan and classify an Unusual Event was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Inspection Manual Chapter 0609, Appendix B,

"Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety-significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding had a cross-cutting in the area of Problem Identification and Resolution, Corrective Action Program, for evaluation and extent of condition (P.1c)). Specifically, Perry personnel failed to properly evaluate and classify an Unusual Event for the June 3, 2012, resin spill conditions in CR 2012-09447, dated June 7, 2012, and CR 2012-09729, dated June 14, 2012.

Inspection Report# : [2012005 \(pdf\)](#)

Occupational Radiation Safety

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Operational and Radiological Controls Necessary to Prevent Plant Manipulations from Adversely Impacting Dose Rates or Airborne Radioactivity Levels

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification (TS) 5.4, "Procedures." Specifically,

TS 5.4 "Procedures", Step 5.4.1 states, in part, that the licensee shall establish, implement, and maintain applicable procedures recommended in Regulatory Guide

(RG) 1.33, Revision 2, Appendix A. Section 7 of Appendix A of RG 1.33 specifies radiation protection procedures for control of radioactivity for limiting personnel exposures. Licensee procedure NOP-OP-4107, "Radiation Work Permit," requires that radiological controls identify "critical steps or critical instructions for positive radiological control of the work to ensure no change on unexpected change in radiological conditions, and prevent unplanned exposure." Contrary to this, on six occasions during the spring 2013 refueling outage, the licensee failed to implement operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological dose rates or airborne radioactivity levels in the plant when workers were in the areas. The licensee documented this issue in it's corrective action program as condition report 2013-09891. As an immediate corrective action, the licensee instituted the appropriate operational and radiological controls to ensure personnel safety.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening" and determined that the issue was more than minor because, if left uncorrected, the performance deficiency could have led to a more significant safety concern. Specifically, not implementing the operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological conditions in the plant could result in unnecessary and unplanned radiation exposures. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupation Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work-control, because the licensee did not appropriately plan work activities when developing the work packages and authorizing the work.

Inspection Report# : [2013009 \(pdf\)](#)

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Lock or Continuously Guard Doors to Prevent Unauthorized Entry to an LHRA

A finding of very low safety significance and an associated non-cited violation

of Technical Specification 5.7, "High Radiation Area," was self-revealed when the access point to the locked high radiation area of the auxiliary steam tunnel on the 620'-elevation of the turbine building was left unattended on May 1, 2013, for about 8 minutes. This issue was entered into the licensee's corrective action program as condition report 2013-06892. As immediate corrective actions, access to the area was guarded and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Post and Barricade a HRA in the Under-Condenser Area Turbine Building Cubicles 13 and 14

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7. "High Radiation Area," when the inspectors identified an unposted, unbarricaded high radiation area under the condenser in turbine building cubicles 13 and 14 that was accessible to personnel by scaffold. This issue was entered into the licensee's corrective action program as condition report 2013-06139. As an immediate corrective action, the scaffold was removed and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee did not thoroughly evaluate and address this issue when initially identified by the NRC in 2011 or during the licensee's extent of condition evaluations.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance and associated non-cited violation of 10 CFR 20.1501 was self-revealed for the failure of the licensee to make surveys to ensure compliance with 10 CFR 20.1601 and Technical Specification 5.7.2 from June 3 through June 7, 2012. Specifically, the licensee failed to evaluate the radiological conditions and potential radiological hazards associated with the spill of radioactive resins on the 574' elevation of the radioactive waste processing building that resulted in the failure to properly barricade and conspicuously post the area as required by 10 CFR 20.1601 and Technical Specification 5.7.2. The area was found to be accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 millirem. Corrective actions included performing complete radiological surveys of the area, posting and controlling the area as required by licensee Technical Specifications. These actions were completed on June 7, 2012.

The inspectors determined that this finding was more than minor because it was associated with the program and process attribute of the Occupational Radiation Safety cornerstone and adversely affected the associated cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The inspectors reviewed the finding in accordance with Inspection Manual Chapter 0609, Appendix C, Occupational Radiation Safety Significance Determination Process, and determined that the finding was of very low safety significance because the finding did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or substantial potential for an overexposure, nor was the licensee's ability to assess worker dose compromised. The inspectors concluded that the most significant contributor to the finding was in the cross-cutting area of Human Performance with the component of decision making (H.1.(b)).

Inspection Report# : [2012005](#) ([pdf](#))

W

Significance: Sep 14, 2012

Identified By: NRC

Item Type: FIN Finding

Parallel White PI Finding (EA 2012-228)

The inspectors identified a White parallel PI inspection finding for the failure to provide assurance that the corrective actions for performance issues associated with the Occupational Exposure Control Effectiveness PI were sufficient to address the root and contributing causes and to prevent recurrence. This finding has been entered into the licensee's Corrective Action Program (CAP) as Condition Report (CR)-2012-18695.

In accordance with IP 95002 and IMC 0305, "Operating Reactor Assessment Program," the parallel PI inspection finding is assigned the same safety significance as the initiating PI. Because the initiating PI had a low to moderate safety significance (White), this parallel inspection finding has been assigned a low to moderate safety significance (White). This finding was not assessed for cross-cutting aspects.

Inspection Report# : [2012009](#) ([pdf](#))

Inspection Report# : [2013009](#) ([pdf](#))

G

Significance: Sep 14, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Existing Plant Procedures

The inspectors identified a finding of very low safety significance and multiple examples of an associated NCV for failure to comply with Technical Specification (TS) 5.4.1. Specifically, the inspectors identified that the licensee failed to implement multiple procedural requirements associated with a spill of radioactive material in the Radioactive Waste Building. The failure to implement these procedural requirements occurred across multiple organizations (Radiation Protection, Work Control, and Operations). The licensee entered this issue into their CAP as CR-2012-09447.

The performance deficiency was determined to be more than minor because it could reasonably be viewed as a precursor to a significant event (lack of proper protection of workers from potential exposures), was related to the Programs and Process attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective to ensure the adequate protection of worker health and safety from exposure to radiation from radioactive material during routine reactor operation. Therefore, the performance deficiency was determined to be a finding or more than minor safety significance. The finding was not subject to traditional enforcement because it was not associated with a violation that impacted the regulatory process and did not contribute to actual safety consequences. The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and

was determined to be of very low safety significance (Green) because it was not related to As-Low-As-Is-Reasonably-Achievable (ALARA), did not result in an overexposure or a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose. This finding was associated with a cross-cutting aspect in the decision-making component of the human performance cross-cutting area. Specifically, the licensee failed to use conservative assumptions in their decisions affecting response to a radiological spill, which resulted in failure to adequately control the area for several days

Inspection Report# : [2012009 \(pdf\)](#)

G

Significance: Sep 14, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Appropriately Control Access to a Locked High Radiation Area

The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.7.2 for the failure to control and establish barriers that would prevent unauthorized entry to an area that was accessible to personnel with radiation levels, such that a major portion of the whole body could receive in 1 hour, a dose greater than or equal to 1000 mRem. Specifically, the inspectors determined that the barriers used to control access to an identified Locked High Radiation Area (LHRA) around the work platform erected to support dry fuel storage cask loading and transport, did not provide reasonable assurance that the area was secure against unauthorized access and could not be circumvented. The licensee entered this issue into their CAP as CR-2012-14884. The licensee also took immediate corrective actions, which included posting an additional access control guard in the area, documenting Radiation Protection (RP) Manager standing orders for control of the area, controlling keys to operate the person-lift by the RP staff, and providing additional physical barriers to the lower areas of the scaffolding to prevent use of natural ladders of the scaffolding.

The performance deficiency was determined to be more than minor based on Example 6.g of IMC 0612, Appendix E, "Examples of Minor Issues," because LHRA conditions were actually present. As a result, the inspectors determined that the performance deficiency was a finding of more than minor safety significance. The finding was not subject to traditional enforcement because it was not associated with a violation that impacted the regulatory process and did not contribute to actual safety consequences. The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and was determined to be of very low safety significance (Green) because it was not related to ALARA, did not result in an overexposure or a substantial potential for overexposure, nor was the ability to assess dose compromised. This finding was associated with a cross-cutting aspect in the operating experience component of the problem identification and resolution cross cutting area. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment and training programs.

Inspection Report# : [2012009 \(pdf\)](#)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary.

Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : September 03, 2013

Perry 1

3Q/2013 Plant Inspection Findings

Initiating Events

Significance: N/A Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency

Inspection Report# : [2013008 \(pdf\)](#)

G

Significance: G Jul 28, 2013

Identified By: NRC

Item Type: FIN Finding

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency.

Inspection Report# : [2013008 \(pdf\)](#)**G****Significance:** Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedure Appropriate to the Circumstances Leads to Reactor Overfeed Event

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed when the licensee failed to perform a procedure that was appropriate to the circumstances. Specifically, on May 12, 2013, work instruction PTI N27-P0012, Revision 5, was performed when the condition of the plant, i.e., the specific configuration of the feedwater system and the relatively low reactor pressure, was incapable of supporting the test and resulted in a reactor overfill event. The issue was entered into the corrective action program as condition report 2013-07473. The licensee performed an apparent cause evaluation to identify the most likely causal factors, citing the inadequacy of the procedure and the lack of proper planning as contributing causes.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Initiating Events Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work control, for the licensee's failure to plan work activities such that they could be performed while the plant was in an appropriate operational condition. Specifically, the licensee rescheduled the activity without performing an adequate impact review of the different plant conditions on the activity.

Inspection Report# : [2013009 \(pdf\)](#)**G****Significance:** May 03, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO PERFORM VENDOR RECOMMENDED PREVENTIVE MAINTENANCE ON THE BALANCE-OF-PLANT STATIC TRANSFER SWITCH

A self-revealed finding of very low safety significance was identified for the licensee's failure to implement recommended preventive maintenance on a balance-of-plant (BOP) inverter and static transfer switch. Specifically, the licensee failed to implement vendor-recommended preventive maintenance requirements to replace circuit cards in both a BOP inverter and an associated static transfer switch every twelve and ten years, respectively. No violation of NRC regulatory requirements was identified because the performance deficiency involved nonsafety-related equipment. The licensee entered this issue into the corrective action program as Condition Report 2013-00954.

The inspectors determined that the failure to perform preventive maintenance on the failed BOP inverter and static transfer switch in accordance with vendor recommendations was a performance deficiency. The performance deficiency was evaluated using Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was evaluated using IMC 0609, dated June 2, 2011, and IMC 0609, Attachment 0609.04, dated

June 19, 2012, and IMC 0609, Appendix A, Exhibit 1 – Initiating Events Screening Questions, dated June 19, 2012. In answering “no” to “B. Transient Initiators, ‘Did the finding cause a reactor trip AND the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition?’,” the inspectors determined that the finding was of very low safety significance (Green). The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component in that the licensee failed to thoroughly evaluate problems such that the resolution addressed the causes. Specifically, the licensee had previously identified the reliability of the BOP inverter and static transfer switch as the cause for previous feedwater-related events but failed to implement recommended corrective actions to prevent future events (P.1(c)).

Inspection Report# : [2013002](#) ([pdf](#))

Mitigating Systems

Significance: Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MEET FIRE BRIGADE DRILL TRAINING REQUIREMENTS

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of License Condition 2.C(6) for failure to ensure that an individual met the fire drill participation requirements for fire brigade members and fire brigade leaders. Specifically, certified fire brigade members and fire brigade leaders are required to participate in at least two drills per year and in one case the licensee failed to conduct proper drills as required by the license condition. The issue was entered into the licensee’s corrective action program as Condition Report 2013-12964, and the licensee initiated immediate action to ensure that all current fire brigade members/leaders met drill participation requirements prior to fulfilling those roles.

The inspectors determined that the failure to conduct proper drills was a performance deficiency and was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, because the finding was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors for Fire and adversely affected the associated cornerstone objective of ensuring the reliability and capability of the fire brigade to respond to initiating events to prevent undesirable consequences. Because the licensee failed to ensure that fire brigade members and fire brigade leaders met the licensee’s qualification requirements of participating in at least two fire drills per year, the mitigating systems cornerstone attribute to ensure the availability and reliability of the fire brigade to respond to initiating events was impacted. The finding was evaluated using IMC 0609, Significance Determination Process (SDP), Attachment 0609.04, “Initial Characterization of Findings,” dated June 19, 2012. Because the finding involved the Fire Brigade, Table 3, SDP Appendix Router, Section E.1, “Fire Protection,” directed NRC staff to use IMC 0609, Appendix A, “The SDP for Findings At-Power,” dated June 19, 2012. Exhibit 2 of IMC 0609, the Mitigating Systems Screening Questions, Section D.1.a., Fire Brigade, was checked “yes” because the finding involved the Fire Brigade training and qualification requirements. The first condition under D.1.a., “The fire brigade demonstrated the ability to meet the required times for fire extinguishment for drill scenarios,” was applicable and the finding did not significantly affect the ability of the fire brigade to respond to a fire, so the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component, in that the licensee did not take corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to identify that all drill requirements for fire brigade personnel as required in Branch Technical Position APCSB 9.5-1, Appendix A, which requires specific factors that qualify a drill for training purposes, was not used to

plan and execute drills for personnel re-qualifying for this watch position during 2012 and 2013 (P.1(d)).

Inspection Report# : [2013004 \(pdf\)](#)

Significance: Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient Controls to Prevent Common Mode Flooding of ECCS Rooms (Section 4OA2.1.b(1))

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to control drainage of the emergency core cooling system room sumps in a manner that prevents common mode flooding of these rooms. Specifically, procedures did not ensure appropriate controls to prevent backflow from the floor drain system. The licensee entered the issue into their Corrective Action Program and revised procedures to prevent opening more than one emergency core cooling system room sump isolation valve at the same time.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of protection against external factors and affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency core cooling system to respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because it did not result in either the loss of operability or an actual loss or degradation of a function designed to mitigate flooding. Specifically, a review of recent plant history did not find an instance where the configuration of the floor drain system allowed common mode flooding of the emergency core cooling system rooms when operability of this system was required. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not conduct a self-assessment of sufficient depth. Specifically, the licensee evaluated a flooding incident during a self-assessment conducted in 2013 and failed to thoroughly evaluate the cause that resulted in common mode flooding of the rooms.

Inspection Report# : [2013008 \(pdf\)](#)

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE RESULTED IN LOSS OF HIGH-PRESSURE CORE SPRAY FUNCTION

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for high-pressure core spray (HPCS) emergency core cooling systems integrated testing. The surveillance procedure used for the HPCS, safety-related electrical bus, EH13, testing during refueling outage 14, directly resulted in an unplanned outage of the bus for nearly 4 hours. The licensee entered the issue into the corrective action program as Condition Report 2013-03863.

The inspectors determined that the failure to develop a correct surveillance procedure required by Technical Specification 5.4.1 a. was a performance deficiency and resulted in an unplanned loss of the EH13 safety-related electric bus and caused a loss of function for HPCS. The performance deficiency was determined to be more than minor, and thus a finding, using IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2 – Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors answered "yes" to Question 2, "Does the finding represent a loss of system and/or function?" A detailed risk evaluation was conducted by the Region III Senior Reactor Analyst (SRA). The SRA

performed an evaluation using the NRC's Standardized Plant Analysis Risk model for Perry. The SRA assumed that EH13 was unavailable for 4 hours. The change in core damage frequency was estimated to be much less than 1E-6/yr, which represents a finding of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance associated with the work control component, in that, the licensee failed to appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope or activities which could affect the plant. Specifically, the development of a new surveillance procedure did not correctly predict the plant response for the safety-related system test lineup and resulted in an unplanned loss of the EH13 safety-related electric bus (H.3(b)).

Inspection Report# : [2013002 \(pdf\)](#)

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

VALVE MIS-POSITION CAUSES SDV LEVEL DETECTOR INOPERABILITY

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to correctly implement a surveillance procedure for calibration of a scram discharge volume (SDV) level detector. Specifically, licensee technicians failed to open and lock open, with independent verification, the lower isolation valve to an SDV level detector. The licensee documented the issue in the corrective action program as Condition Report 2013-04452.

The inspectors determined that the failure to correctly complete the procedure and lock open the lower isolation valve was a performance deficiency which resulted in a locked in scram signal with a resulting inability to clear the signal and restore safety-related systems after the scram (to begin a refueling outage) for several days. The performance deficiency was evaluated under Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and determined to be more than minor, and thus a finding, because it was associated with the human performance attribute of the Mitigating Systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. By answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined this finding was of very low safety significance because the finding did not affect other diverse methods of reactor shutdown, it did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that the licensee communicates human error prevention techniques, that techniques are used commensurate with the risk of the assigned task, and personnel do not proceed in the face of uncertainty or unexpected circumstances. Specifically, the independent verifier found the valve in an unexpected condition with a locking device already installed, did not stop the process and question the valve position, but proceeded in the face of uncertainty (H.4(a))

Inspection Report# : [2013002 \(pdf\)](#)

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR CONDUCTING A STANDBY LIQUID CONTROL SYSTEM SURVEILLANCE

A self-revealed finding of very low safety significance and associated non cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the licensee failed to correctly implement procedures for testing safety related equipment. Specifically, the licensee failed to correctly implement prerequisite

steps in a surveillance instruction, causing the standby liquid control (SLC) pump 'A' plunger pot drain valves to be left open, contrary to procedure. The licensee entered the finding into the corrective action program as Condition Report 2013-00114 and took immediate action to close the valves when leakage was discovered from the drain valve tailpipes.

The inspectors determined that the failure to correctly complete the prerequisite steps in surveillance instruction (SVI)-C41-T2001-A was a performance deficiency which resulted in a water spill in containment, an associated lockup of the rod control and information system (RCIS), and required the licensee to enter two off-normal instructions (ONIs). The performance deficiency was determined to be more than minor, and thus a finding, using Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, because it is similar to Example 4.b and resulted in an unexpected, "Inhibit Rod Motion RCIS OOS," alarm and caused the operating crew to enter ONI-C11-1, "Inability to Move Control Rods." The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. In answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined that the finding was of very low safety significance because the finding did not affect a reactor protection system trip signal, did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that licensee personnel failed to use human error prevention techniques, such as holding a pre-job briefing, self and peer checking, and proper documentation of activities. Specifically, the operation to position the plunger pot drain valves on the 'A' and 'B' SLC pumps was not coordinated by the field supervisor in accordance with the SVI and operations personnel proceeded in the face of uncertainty or unexpected circumstances (H.4(a)).

Inspection Report# : [2013002 \(pdf\)](#)

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

INAPPROPRIATE PROCEDURES FOR RESTORING LPCI MODE OF RHR FOLLOWING A LOCA AT MODE 3

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to establish appropriate procedures capable of restoring low pressure coolant injection (LPCI) mode of residual heat removal (RHR), while in the shutdown cooling (SDC) mode, following a loss-of-coolant accident (LOCA) in Mode 3. Specifically, the licensee failed to prescribe procedures which ensured: (1) LPCI could be restored using only safety-related/seismic structures, systems and components; (2) no unanalyzed water hammer event occurred; (3) the equipment used for venting the system were appropriate; and (4) operator safety was maintained. This finding was entered into the licensee's corrective action program and the licensee instituted compensatory actions to declare RHR trains INOPERABLE while aligned to SDC. Additionally, procedures affected are prohibited from use while the plant is in Mode 3.

The performance deficiency was determined to be more than minor because, if left uncorrected it could have the potential to lead to a more significant safety concern. Specifically, the inspectors had concerns that procedures, as currently written, would have been unsuccessful in restoring LPCI. The finding screened as having a very low safety significance based on a Phase II Significance Determination Process evaluation. The result was a delta core damage frequency less than 1.0E-6/year. The inspectors determined this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not implement operating experience through changes to the station's process, procedures, and equipment. Specifically, the licensee's evaluation of Information Notice 2010-11 incorrectly concluded sufficient barriers were in place to prevent the occurrence of steam voiding in the RHR system (P.2(b)).

Inspection Report# : [2012005 \(pdf\)](#)**G****Significance:** Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

DEFICIENCIES WITH PERIODIC VENTING PROCEDURES AND VOID QUANTIFICATION

The inspectors identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure to ensure adequate test instrumentation was available and used during the performance of periodic venting. This finding was entered into the licensee's corrective action program and the licensee will revise the affected procedures to require the use of a timepiece.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of "Procedure Quality: Maintenance and Testing Procedures." Specifically, by not using adequate test instrumentation to measure the time gas was vented, the licensee introduced further uncertainty to an already inaccurate method. The finding screened as having very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, review of the licensee's corrective action program documents for resolution of Generic Letter 2008 01 determined that voids had been identified following system restoration (initial fill and vent) while the system was inoperable, and voids identified when the system was online had been significantly below the calculated acceptance criteria. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not thoroughly evaluate relevant external operating experience. Specifically, the licensee's evaluation of Nuclear Energy Institute 09-10, Revision 0, failed to identify the importance of having adequate venting time information when quantifying vented voids (P.2(a)).

Inspection Report# : [2012005 \(pdf\)](#)

Barrier Integrity

G**Significance:** Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedural Requirements for RWCU System Fill and Vent

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was self revealed when the licensee failed to adhere to procedural requirements during the filling and venting of the reactor water cleanup (RWCU) system. Specifically, on April 26, 2013, valves 1G33-F008A and F556A were left in the open position, contrary to the requirements of step 7.16.9 of procedure SOI-G33, revision 36, and resulted in the RWCU system being aligned to the condensate transfer and storage system. This valve misposition event also resulted in the TS 3.6.1.3 inoperability of the containment isolation valve 1P11F0545. Upon discovery of the condition, the licensee promptly corrected the error and the entered the condition into its corrective action program as condition report 2013 07483, and performed an apparent cause evaluation.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Barrier Integrity Cornerstone attribute of configuration control and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance (Green)

in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work practices, for the licensee's failure to successfully incorporate human error prevention techniques, such as self and peer checks.

Inspection Report# : [2013009 \(pdf\)](#)

Significance: Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE FUEL HANDLING BUILDING CRANE MAINTENANCE CHALLENGES SINGLE-FAILURE-PROOF COMPLIANCE

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed for the failure to perform adequate maintenance on the single-failure-proof fuel handling building (FHB) crane used to handle dry storage casks containing spent nuclear fuel. The licensee corrected the issue prior to conducting lifts containing spent nuclear fuel and entered it into their corrective action program (Condition Reports 2012-13234, 2012-13315, and 2012-12933).

The inspectors determined the performance deficiency was more than minor in that it affected the Human Performance attribute (maintenance performance) of the Barrier Integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radioactive releases caused by accidents or events. Additionally, if left uncorrected, a malfunction of the FHB crane could lead to a more significant safety concern. Based on answering "No" to all the screening questions in IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the finding was determined to be of very low safety-significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Resources, because the licensee failed to have complete, accurate, and up-to-date procedures that ensured personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee failed to have maintenance procedures that ensured the FHB crane would be capable of performing its single failure proof design functions that assure nuclear safety (H.2 (c)).

Inspection Report# : [2012005 \(pdf\)](#)

Emergency Preparedness

Significance: Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CLASSIFY AND UNUSUAL EVENT

The inspectors identified a finding of very low safety significance with an associated non-cited violation of 10 CFR 50.54(q)(2) for the failure to follow the Perry Nuclear Power Plant Emergency Plan that uses a standard emergency classification and action level scheme. Specifically, on June 7, 2012, Perry personnel failed to classify an Unusual Event for an unexpected increase in plant radiation levels when health physics surveys indicated an increase by a factor of 1000 times over normally expected area radiation levels. On June 14, 2012, the licensee initiated CR 2012-09729 to determine why an Unusual Event was not classified for the June 3, 2012, resin spill, and why there was a failure to classify the unexpected increase in plant radiation levels identified in surveys of the 574' elevation of the radwaste building on June 7. On November 29, 2012, the licensee initiated CR 2012-18622 to identify and investigate

reasons for the Unusual Event requirements.

The failure to implement the emergency plan and classify an Unusual Event was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety-significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding had a cross-cutting in the area of Problem Identification and Resolution, Corrective Action Program, for evaluation and extent of condition (P.1c)). Specifically, Perry personnel failed to properly evaluate and classify an Unusual Event for the June 3, 2012, resin spill conditions in CR 2012-09447, dated June 7, 2012, and CR 2012-09729, dated June 14, 2012.

Inspection Report# : [2012005 \(pdf\)](#)

Occupational Radiation Safety

G

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

WORKER ACCESS INTO A HIGH RADIATION AREA CONTRARY TO THE REQUIREMENTS OF THE RADIATION WORK PERMIT

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.4.1 was self-revealed through an electronic dosimeter alarm when, on August 6, 2013, a licensee worker inappropriately entered a high radiation area in the overhead of Auxiliary Building 574'. The inspectors concluded that the worker failed to comply with the requirements of his radiation work permit that prohibited work 6 feet above floor level until a radiological survey is performed and radiation protection verifies that the area met the requirements of the radiation work permit. This issue was entered into the licensee's corrective action program as Condition Report 2013 12077. Corrective actions focused on performance management of the individual involved.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined that the issue was more than minor because it was similar to Example 6(h). The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors identified no cross-cutting issues associated with this finding.

Inspection Report# : [2013004 \(pdf\)](#)

G

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

UNPROFESSIONAL WORKER CONDUCT INSIDE A LOCKED HIGH RADIATION AREA IN THE TURBINE BUILDING 620' AUXILIARY STEAM TUNNEL

The inspectors reviewed a self-revealed finding (FIN) of very low safety significance involving an unauthorized activity inside a radiologically contaminated locked high radiation area. Specifically, on April 30, 2013, licensee contract personnel inappropriately placed a plastic container of goldfish inside the Turbine Building 620' auxiliary

steam tunnel. This issue was entered into the licensee's corrective action program as Condition Report 2013-06758. Corrective actions included performance management of the individuals involved.

The inspectors determined that the finding was more than minor, in accordance with Inspection Manual Chapter (IMC) 0612 because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process of radiological exposure and contamination control and adversely affected the associated cornerstone objective to ensure adequate protection of worker health and safety from exposure to radioactive materials during routine civilian nuclear reactor operation. The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated November 28, 2011. Additionally, the inspectors determined that the primary cause of this finding was related to the cross-cutting aspect in the area of human performance in work practices. Specifically, the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2013004 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Operational and Radiological Controls Necessary to Prevent Plant Manipulations from Adversely Impacting Dose Rates or Airborne Radioactivity Levels

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification (TS) 5.4, "Procedures." Specifically,

TS 5.4 "Procedures", Step 5.4.1 states, in part, that the licensee shall establish, implement, and maintain applicable procedures recommended in Regulatory Guide

(RG) 1.33, Revision 2, Appendix A. Section 7 of Appendix A of RG 1.33 specifies radiation protection procedures for control of radioactivity for limiting personnel exposures. Licensee procedure NOP-OP-4107, "Radiation Work Permit," requires that radiological controls identify "critical steps or critical instructions for positive radiological control of the work to ensure no change on unexpected change in radiological conditions, and prevent unplanned exposure." Contrary to this, on six occasions during the spring 2013 refueling outage, the licensee failed to implement operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological dose rates or airborne radioactivity levels in the plant when workers were in the areas. The licensee documented this issue in its corrective action program as condition report 2013-09891. As an immediate corrective action, the licensee instituted the appropriate operational and radiological controls to ensure personnel safety.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening" and determined that the issue was more than minor because, if left uncorrected, the performance deficiency could have led to a more significant safety concern. Specifically, not implementing the operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological conditions in the plant could result in unnecessary and unplanned radiation exposures. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupation Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work-control, because the licensee did not appropriately plan work activities when developing the work packages and authorizing the work.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Lock or Continuously Guard Doors to Prevent Unauthorized Entry to an LHRA

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7, "High Radiation Area," was self-revealed when the access point to the locked high radiation area of the auxiliary steam tunnel on the 620'-elevation of the turbine building was left unattended on May 1, 2013, for about 8 minutes. This issue was entered into the licensee's corrective action program as condition report 2013-06892. As immediate corrective actions, access to the area was guarded and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported.

Inspection Report# : [2013009 \(pdf\)](#)

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Post and Barricade a HRA in the Under-Condenser Area Turbine Building Cubicles 13 and 14

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7. "High Radiation Area," when the inspectors identified an unposted, unbarricaded high radiation area under the condenser in turbine building cubicles 13 and 14 that was accessible to personnel by scaffold. This issue was entered into the licensee's corrective action program as condition report 2013-06139. As an immediate corrective action, the scaffold was removed and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee did not thoroughly evaluate and address this issue when initially identified by the NRC in 2011 or during the licensee's extent of condition evaluations.

Inspection Report# : [2013009 \(pdf\)](#)

Significance: Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO APPROPRIATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA

A finding of very low safety significance and associated non-cited violation of 10 CFR 20.1501 was self-revealed for the failure of the licensee to make surveys to ensure compliance with 10 CFR 20.1601 and Technical Specification 5.7.2 from June 3 through June 7, 2012. Specifically, the licensee failed to evaluate the radiological conditions and potential radiological hazards associated with the spill of radioactive resins on the 574' elevation of the radioactive waste processing building that resulted in the failure to properly barricade and conspicuously post the area as required by 10 CFR 20.1601 and Technical Specification 5.7.2. The area was found to be accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 millirem. Corrective actions included performing complete radiological surveys of

the area, posting and controlling the area as required by licensee Technical Specifications. These actions were completed on June 7, 2012.

The inspectors determined that this finding was more than minor because it was associated with the program and process attribute of the Occupational Radiation Safety cornerstone and adversely affected the associated cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, not barricading and conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. The inspectors reviewed the finding in accordance with Inspection Manual Chapter 0609, Appendix C, Occupational Radiation Safety Significance Determination Process, and determined that the finding was of very low safety significance because the finding did not involve as-low-as-is-reasonably-achievable (ALARA) planning or work controls, there was no overexposure or substantial potential for an overexposure, nor was the licensee's ability to assess worker dose compromised. The inspectors concluded that the most significant contributor to the finding was in the cross-cutting area of Human Performance with the component of decision making (H.1.(b)).

Inspection Report# : [2012005 \(pdf\)](#)

Public Radiation Safety

G

Significance: Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REPRESENTATIVE SAMPLING OF FISH IN ORDER TO ACCURATELY ASSESS INGESTION RADIATION AS REQUIRED BY THE OFF-SITE DOSE CALCULATION MANUAL

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)." Specifically, the licensee failed to follow the "Fish and Invertebrates" sampling requirements specified in the ODCM. Corrective actions were being developed in the corrective action program (Condition Report 2013 14987) and senior plant management expressed the understanding that sampling was important and the condition would be corrected.

The finding was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program and process of projected offsite dose and adversely affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The finding was assessed using Inspection Manual Chapter (IMC) 0609, Attachment D, dated February 12, 2008, for the Public Radiation Safety Significance Determination Process and determined to be of very low safety significance because it involved the Environmental Monitoring Program. Additionally, the inspectors determined that the primary cause of this finding was related to the cross cutting aspect in the area of human performance in work practices. Specifically, the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures (H.4(b)).

Inspection Report# : [2013004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security

Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : December 03, 2013

Perry 1

4Q/2013 Plant Inspection Findings

Initiating Events

Significance: N/A Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency

Inspection Report# : [2013008 \(pdf\)](#)

Significance: Jul 28, 2013

Identified By: NRC

Item Type: FIN Finding

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency.

Inspection Report# : [2013008 \(pdf\)](#)**G****Significance:** Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedure Appropriate to the Circumstances Leads to Reactor Overfeed Event

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed when the licensee failed to perform a procedure that was appropriate to the circumstances. Specifically, on May 12, 2013, work instruction PTI N27-P0012, Revision 5, was performed when the condition of the plant, i.e., the specific configuration of the feedwater system and the relatively low reactor pressure, was incapable of supporting the test and resulted in a reactor overfill event. The issue was entered into the corrective action program as condition report 2013-07473. The licensee performed an apparent cause evaluation to identify the most likely causal factors, citing the inadequacy of the procedure and the lack of proper planning as contributing causes.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Initiating Events Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work control, for the licensee's failure to plan work activities such that they could be performed while the plant was in an appropriate operational condition. Specifically, the licensee rescheduled the activity without performing an adequate impact review of the different plant conditions on the activity.

Inspection Report# : [2013009 \(pdf\)](#)**G****Significance:** May 03, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO PERFORM VENDOR RECOMMENDED PREVENTIVE MAINTENANCE ON THE BALANCE-OF-PLANT STATIC TRANSFER SWITCH

A self-revealed finding of very low safety significance was identified for the licensee's failure to implement recommended preventive maintenance on a balance-of-plant (BOP) inverter and static transfer switch. Specifically, the licensee failed to implement vendor-recommended preventive maintenance requirements to replace circuit cards in both a BOP inverter and an associated static transfer switch every twelve and ten years, respectively. No violation of NRC regulatory requirements was identified because the performance deficiency involved nonsafety-related equipment. The licensee entered this issue into the corrective action program as Condition Report 2013-00954.

The inspectors determined that the failure to perform preventive maintenance on the failed BOP inverter and static transfer switch in accordance with vendor recommendations was a performance deficiency. The performance deficiency was evaluated using Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was evaluated using IMC 0609, dated June 2, 2011, and IMC 0609, Attachment 0609.04, dated

June 19, 2012, and IMC 0609, Appendix A, Exhibit 1 – Initiating Events Screening Questions, dated June 19, 2012. In answering “no” to “B. Transient Initiators, ‘Did the finding cause a reactor trip AND the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition?’,” the inspectors determined that the finding was of very low safety significance (Green). The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component in that the licensee failed to thoroughly evaluate problems such that the resolution addressed the causes. Specifically, the licensee had previously identified the reliability of the BOP inverter and static transfer switch as the cause for previous feedwater-related events but failed to implement recommended corrective actions to prevent future events (P.1(c)).

Inspection Report# : [2013002](#) ([pdf](#))

Mitigating Systems

Significance: Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MEET FIRE BRIGADE DRILL TRAINING REQUIREMENTS

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of License Condition 2.C(6) for failure to ensure that an individual met the fire drill participation requirements for fire brigade members and fire brigade leaders. Specifically, certified fire brigade members and fire brigade leaders are required to participate in at least two drills per year and in one case the licensee failed to conduct proper drills as required by the license condition. The issue was entered into the licensee’s corrective action program as Condition Report 2013-12964, and the licensee initiated immediate action to ensure that all current fire brigade members/leaders met drill participation requirements prior to fulfilling those roles.

The inspectors determined that the failure to conduct proper drills was a performance deficiency and was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, because the finding was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors for Fire and adversely affected the associated cornerstone objective of ensuring the reliability and capability of the fire brigade to respond to initiating events to prevent undesirable consequences. Because the licensee failed to ensure that fire brigade members and fire brigade leaders met the licensee’s qualification requirements of participating in at least two fire drills per year, the mitigating systems cornerstone attribute to ensure the availability and reliability of the fire brigade to respond to initiating events was impacted. The finding was evaluated using IMC 0609, Significance Determination Process (SDP), Attachment 0609.04, “Initial Characterization of Findings,” dated June 19, 2012. Because the finding involved the Fire Brigade, Table 3, SDP Appendix Router, Section E.1, “Fire Protection,” directed NRC staff to use IMC 0609, Appendix A, “The SDP for Findings At-Power,” dated June 19, 2012. Exhibit 2 of IMC 0609, the Mitigating Systems Screening Questions, Section D.1.a., Fire Brigade, was checked “yes” because the finding involved the Fire Brigade training and qualification requirements. The first condition under D.1.a., “The fire brigade demonstrated the ability to meet the required times for fire extinguishment for drill scenarios,” was applicable and the finding did not significantly affect the ability of the fire brigade to respond to a fire, so the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component, in that the licensee did not take corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to identify that all drill requirements for fire brigade personnel as required in Branch Technical Position APCSB 9.5-1, Appendix A, which requires specific factors that qualify a drill for training purposes, was not used to

plan and execute drills for personnel re-qualifying for this watch position during 2012 and 2013 (P.1(d)).

Inspection Report# : [2013004 \(pdf\)](#)

Significance: Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient Controls to Prevent Common Mode Flooding of ECCS Rooms (Section 4OA2.1.b(1))

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to control drainage of the emergency core cooling system room sumps in a manner that prevents common mode flooding of these rooms. Specifically, procedures did not ensure appropriate controls to prevent backflow from the floor drain system. The licensee entered the issue into their Corrective Action Program and revised procedures to prevent opening more than one emergency core cooling system room sump isolation valve at the same time.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of protection against external factors and affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency core cooling system to respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because it did not result in either the loss of operability or an actual loss or degradation of a function designed to mitigate flooding. Specifically, a review of recent plant history did not find an instance where the configuration of the floor drain system allowed common mode flooding of the emergency core cooling system rooms when operability of this system was required. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not conduct a self-assessment of sufficient depth. Specifically, the licensee evaluated a flooding incident during a self-assessment conducted in 2013 and failed to thoroughly evaluate the cause that resulted in common mode flooding of the rooms.

Inspection Report# : [2013008 \(pdf\)](#)

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE RESULTED IN LOSS OF HIGH-PRESSURE CORE SPRAY FUNCTION

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for high-pressure core spray (HPCS) emergency core cooling systems integrated testing. The surveillance procedure used for the HPCS, safety-related electrical bus, EH13, testing during refueling outage 14, directly resulted in an unplanned outage of the bus for nearly 4 hours. The licensee entered the issue into the corrective action program as Condition Report 2013-03863.

The inspectors determined that the failure to develop a correct surveillance procedure required by Technical Specification 5.4.1 a. was a performance deficiency and resulted in an unplanned loss of the EH13 safety-related electric bus and caused a loss of function for HPCS. The performance deficiency was determined to be more than minor, and thus a finding, using IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2 – Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors answered "yes" to Question 2, "Does the finding represent a loss of system and/or function?" A detailed risk evaluation was conducted by the Region III Senior Reactor Analyst (SRA). The SRA

performed an evaluation using the NRC's Standardized Plant Analysis Risk model for Perry. The SRA assumed that EH13 was unavailable for 4 hours. The change in core damage frequency was estimated to be much less than 1E-6/yr, which represents a finding of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance associated with the work control component, in that, the licensee failed to appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope or activities which could affect the plant. Specifically, the development of a new surveillance procedure did not correctly predict the plant response for the safety-related system test lineup and resulted in an unplanned loss of the EH13 safety-related electric bus (H.3(b)).

Inspection Report# : [2013002 \(pdf\)](#)

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

VALVE MIS-POSITION CAUSES SDV LEVEL DETECTOR INOPERABILITY

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to correctly implement a surveillance procedure for calibration of a scram discharge volume (SDV) level detector. Specifically, licensee technicians failed to open and lock open, with independent verification, the lower isolation valve to an SDV level detector. The licensee documented the issue in the corrective action program as Condition Report 2013-04452.

The inspectors determined that the failure to correctly complete the procedure and lock open the lower isolation valve was a performance deficiency which resulted in a locked in scram signal with a resulting inability to clear the signal and restore safety-related systems after the scram (to begin a refueling outage) for several days. The performance deficiency was evaluated under Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and determined to be more than minor, and thus a finding, because it was associated with the human performance attribute of the Mitigating Systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. By answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined this finding was of very low safety significance because the finding did not affect other diverse methods of reactor shutdown, it did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that the licensee communicates human error prevention techniques, that techniques are used commensurate with the risk of the assigned task, and personnel do not proceed in the face of uncertainty or unexpected circumstances. Specifically, the independent verifier found the valve in an unexpected condition with a locking device already installed, did not stop the process and question the valve position, but proceeded in the face of uncertainty (H.4(a))

Inspection Report# : [2013002 \(pdf\)](#)

G

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR CONDUCTING A STANDBY LIQUID CONTROL SYSTEM SURVEILLANCE

A self-revealed finding of very low safety significance and associated non cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the licensee failed to correctly implement procedures for testing safety related equipment. Specifically, the licensee failed to correctly implement prerequisite

steps in a surveillance instruction, causing the standby liquid control (SLC) pump 'A' plunger pot drain valves to be left open, contrary to procedure. The licensee entered the finding into the corrective action program as Condition Report 2013-00114 and took immediate action to close the valves when leakage was discovered from the drain valve tailpipes.

The inspectors determined that the failure to correctly complete the prerequisite steps in surveillance instruction (SVI)-C41-T2001-A was a performance deficiency which resulted in a water spill in containment, an associated lockup of the rod control and information system (RCIS), and required the licensee to enter two off-normal instructions (ONIs). The performance deficiency was determined to be more than minor, and thus a finding, using Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, because it is similar to Example 4.b and resulted in an unexpected, "Inhibit Rod Motion RCIS OOS," alarm and caused the operating crew to enter ONI-C11-1, "Inability to Move Control Rods." The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. In answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined that the finding was of very low safety significance because the finding did not affect a reactor protection system trip signal, did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that licensee personnel failed to use human error prevention techniques, such as holding a pre-job briefing, self and peer checking, and proper documentation of activities. Specifically, the operation to position the plunger pot drain valves on the 'A' and 'B' SLC pumps was not coordinated by the field supervisor in accordance with the SVI and operations personnel proceeded in the face of uncertainty or unexpected circumstances (H.4(a)).

Inspection Report# : [2013002 \(pdf\)](#)

Barrier Integrity

G

Significance: Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION 3.4.11

. The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," for failure to comply with reactor pressure vessel pressure/temperature limits. Specifically, in 2011 the inspectors identified the pressure/temperature limits in Technical Specification 3.4.11 only contained values for reactor pressure vessel pressures greater than 0 pounds per square inch gauge. However, between June 2011 and July 2013, the licensee operated the plant with a vacuum in the reactor pressure vessel during 5 cold startups and 1 cooldown. The licensee entered the finding into its corrective action program as Condition Report CR 2013-18689.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Performance within the Human Performance attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that a physical design barrier (reactor coolant system) protects the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance because it was determined that there was no change in risk due to the performance deficiency. This finding has a cross-cutting aspect in the area of human performance, resources. Specifically, complete, accurate, and up-to-date procedures were not available to operators to ensure operations within the requirements of Technical Specification 3.4.11, (H.2(c)).

Inspection Report# : [2013007 \(pdf\)](#)**G****Significance:** Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A NON-CONSERVATIVE TECHNICAL SPECIFICATION

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure to promptly correct a non-conservative Technical Specification. Specifically, the inspectors identified on November 14, 2013, that the licensee failed to promptly correct the non-conservative Technical Specification 3.4.11 by not submitting a license amendment request in accordance with NRC Administrative Letter 98-10, which required submittal within 1 year or 1 operating cycle. The licensee had determined Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," to be non-conservative on October 16, 2009, and implemented administrative controls as allowed by the Administrative Letter. As of November 14, 2013, the licensee had not submitted the license amendment request, over 4 years and 2 operating cycles after determining the Technical Specification was non-conservative. The licensee entered the finding into the corrective action program as Condition Report CR 2013-18983.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Procedures within the Procedure Quality attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The finding was screened as very low safety significance because it was determined that operators followed the appropriate reactor coolant system P/T curves even though the Technical Specification was non-conservative.

The finding has a cross-cutting aspect in the area of human performance, decision-making, where licensee decisions demonstrate that nuclear safety is an overriding priority. Specifically, from the time of discovery of the non-conservative technical specification until now, various decisions had been made by the licensee that have delayed the timely submittal of the license amendment request (H.1(c)).

Inspection Report# : [2013007 \(pdf\)](#)**G****Significance:** Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedural Requirements for RWCU System Fill and Vent

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed when the licensee failed to adhere to procedural requirements during the filling and venting of the reactor water cleanup (RWCU) system. Specifically, on April 26, 2013, valves 1G33-F008A and F556A were left in the open position, contrary to the requirements of step 7.16.9 of procedure SOI-G33, revision 36, and resulted in the RWCU system being aligned to the condensate transfer and storage system. This valve misposition event also resulted in the TS 3.6.1.3 inoperability of the containment isolation valve 1P11F0545. Upon discovery of the condition, the licensee promptly corrected the error and entered the condition into its corrective action program as condition report 2013 07483, and performed an apparent cause evaluation.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Barrier Integrity Cornerstone attribute of configuration control and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases

caused by accidents or events. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work practices, for the licensee's failure to successfully incorporate human error prevention techniques, such as self and peer checks.

Inspection Report# : [2013009 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

WORKER ACCESS INTO A HIGH RADIATION AREA CONTRARY TO THE REQUIREMENTS OF THE RADIATION WORK PERMIT

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.4.1 was self-revealed through an electronic dosimeter alarm when, on August 6, 2013, a licensee worker inappropriately entered a high radiation area in the overhead of Auxiliary Building 574'. The inspectors concluded that the worker failed to comply with the requirements of his radiation work permit that prohibited work 6 feet above floor level until a radiological survey is performed and radiation protection verifies that the area met the requirements of the radiation work permit. This issue was entered into the licensee's corrective action program as Condition Report 2013 12077. Corrective actions focused on performance management of the individual involved.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined that the issue was more than minor because it was similar to Example 6(h). The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors identified no cross-cutting issues associated with this finding.

Inspection Report# : [2013004 \(pdf\)](#)

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

UNPROFESSIONAL WORKER CONDUCT INSIDE A LOCKED HIGH RADIATION AREA IN THE TURBINE BUILDING 620' AUXILIARY STEAM TUNNEL

The inspectors reviewed a self-revealed finding (FIN) of very low safety significance involving an unauthorized activity inside a radiologically contaminated locked high radiation area. Specifically, on April 30, 2013, licensee contract personnel inappropriately placed a plastic container of goldfish inside the Turbine Building 620' auxiliary steam tunnel. This issue was entered into the licensee's corrective action program as Condition Report 2013-06758. Corrective actions included performance management of the individuals involved.

The inspectors determined that the finding was more than minor, in accordance with Inspection Manual Chapter (IMC) 0612 because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and

process of radiological exposure and contamination control and adversely affected the associated cornerstone objective to ensure adequate protection of worker health and safety from exposure to radioactive materials during routine civilian nuclear reactor operation. The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated November 28, 2011. Additionally, the inspectors determined that the primary cause of this finding was related to the cross-cutting aspect in the area of human performance in work practices. Specifically, the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2013004 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Operational and Radiological Controls Necessary to Prevent Plant Manipulations from Adversely Impacting Dose Rates or Airborne Radioactivity Levels

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification (TS) 5.4, "Procedures." Specifically,

TS 5.4 "Procedures", Step 5.4.1 states, in part, that the licensee shall establish, implement, and maintain applicable procedures recommended in Regulatory Guide

(RG) 1.33, Revision 2, Appendix A. Section 7 of Appendix A of RG 1.33 specifies radiation protection procedures for control of radioactivity for limiting personnel exposures. Licensee procedure NOP-OP-4107, "Radiation Work Permit," requires that radiological controls identify "critical steps or critical instructions for positive radiological control of the work to ensure no change on unexpected change in radiological conditions, and prevent unplanned exposure." Contrary to this, on six occasions during the spring 2013 refueling outage, the licensee failed to implement operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological dose rates or airborne radioactivity levels in the plant when workers were in the areas. The licensee documented this issue in it's corrective action program as condition report 2013-09891. As an immediate corrective action, the licensee instituted the appropriate operational and radiological controls to ensure personnel safety.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening" and determined that the issue was more than minor because, if left uncorrected, the performance deficiency could have led to a more significant safety concern. Specifically, not implementing the operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological conditions in the plant could result in unnecessary and unplanned radiation exposures. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupation Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work-control, because the licensee did not appropriately plan work activities when developing the work packages and authorizing the work.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Lock or Continuously Guard Doors to Prevent Unauthorized Entry to an LHRA

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7, "High Radiation Area," was self-revealed when the access point to the locked high radiation area of the auxiliary steam tunnel on the 620'-elevation of the turbine building was left unattended on May 1, 2013, for about

8 minutes. This issue was entered into the licensee's corrective action program as condition report 2013-06892. As immediate corrective actions, access to the area was guarded and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Post and Barricade a HRA in the Under-Condenser Area Turbine Building Cubicles 13 and 14

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7. "High Radiation Area," when the inspectors identified an unposted, unbarriered high radiation area under the condenser in turbine building cubicles 13 and 14 that was accessible to personnel by scaffold. This issue was entered into the licensee's corrective action program as condition report 2013-06139. As an immediate corrective action, the scaffold was removed and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee did not thoroughly evaluate and address this issue when initially identified by the NRC in 2011 or during the licensee's extent of condition evaluations.

Inspection Report# : [2013009 \(pdf\)](#)

Public Radiation Safety

G

Significance: Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REPRESENTATIVE SAMPLING OF FISH IN ORDER TO ACCURATELY ASSESS INGESTION RADIATION AS REQUIRED BY THE OFF-SITE DOSE CALCULATION MANUAL

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)." Specifically, the licensee failed to follow the "Fish and Invertebrates" sampling requirements specified in the ODCM. Corrective actions were being developed in the corrective action program (Condition Report 2013 14987) and senior plant management expressed the understanding that sampling was important and the condition would be corrected.

The finding was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of

program and process of projected offsite dose and adversely affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The finding was assessed using Inspection Manual Chapter (IMC) 0609, Attachment D, dated February 12, 2008, for the Public Radiation Safety Significance Determination Process and determined to be of very low safety significance because it involved the Environmental Monitoring Program. Additionally, the inspectors determined that the primary cause of this finding was related to the cross cutting aspect in the area of human performance in work practices. Specifically, the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures (H.4(b)).

Inspection Report# : [2013004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : February 24, 2014

Perry 1

1Q/2014 Plant Inspection Findings

Initiating Events

Significance: N/A Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, “Changes, Test, and Experiments,” for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee’s Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency

Inspection Report# : [2013008 \(pdf\)](#)

G

Significance: G Jul 28, 2013

Identified By: NRC

Item Type: FIN Finding

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, “Changes, Test, and Experiments,” for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee’s Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency.

Inspection Report# : [2013008 \(pdf\)](#)**G****Significance:** Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Procedure Appropriate to the Circumstances Leads to Reactor Overfeed Event

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed when the licensee failed to perform a procedure that was appropriate to the circumstances. Specifically, on May 12, 2013, work instruction PTI N27-P0012, Revision 5, was performed when the condition of the plant, i.e., the specific configuration of the feedwater system and the relatively low reactor pressure, was incapable of supporting the test and resulted in a reactor overfill event. The issue was entered into the corrective action program as condition report 2013-07473. The licensee performed an apparent cause evaluation to identify the most likely causal factors, citing the inadequacy of the procedure and the lack of proper planning as contributing causes.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Initiating Events Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work control, for the licensee's failure to plan work activities such that they could be performed while the plant was in an appropriate operational condition. Specifically, the licensee rescheduled the activity without performing an adequate impact review of the different plant conditions on the activity.

Inspection Report# : [2013009 \(pdf\)](#)**G****Significance:** May 03, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO PERFORM VENDOR RECOMMENDED PREVENTIVE MAINTENANCE ON THE BALANCE-OF-PLANT STATIC TRANSFER SWITCH

A self-revealed finding of very low safety significance was identified for the licensee's failure to implement recommended preventive maintenance on a balance-of-plant (BOP) inverter and static transfer switch. Specifically, the licensee failed to implement vendor-recommended preventive maintenance requirements to replace circuit cards in both a BOP inverter and an associated static transfer switch every twelve and ten years, respectively. No violation of NRC regulatory requirements was identified because the performance deficiency involved nonsafety-related equipment. The licensee entered this issue into the corrective action program as Condition Report 2013-00954.

The inspectors determined that the failure to perform preventive maintenance on the failed BOP inverter and static transfer switch in accordance with vendor recommendations was a performance deficiency. The performance deficiency was evaluated using Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was evaluated using IMC 0609, dated June 2, 2011, and IMC 0609, Attachment 0609.04, dated

June 19, 2012, and IMC 0609, Appendix A, Exhibit 1 – Initiating Events Screening Questions, dated June 19, 2012. In answering “no” to “B. Transient Initiators, ‘Did the finding cause a reactor trip AND the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition?’,” the inspectors determined that the finding was of very low safety significance (Green). The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component in that the licensee failed to thoroughly evaluate problems such that the resolution addressed the causes. Specifically, the licensee had previously identified the reliability of the BOP inverter and static transfer switch as the cause for previous feedwater-related events but failed to implement recommended corrective actions to prevent future events (P.1(c)).

Inspection Report# : [2013002 \(pdf\)](#)

Mitigating Systems

Significance: Mar 31, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure for Extreme Cold Weather

A self-revealed finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1.a was identified for the licensee’s failure to maintain adequate procedures to respond to acts of nature as required by Regulatory Guide 1.33, “Quality Assurance Program Requirements.” Specifically, the cold weather procedure did not adequately direct equipment walkdowns and subsequent actions to protect equipment important to safety from severe weather risks, directly resulting in freezing and breaking of fire protection piping in Unit 2 turbine power complex, elevation 593’ level. The piping provides fire protection for Unit 2 startup transformer’s deluge system and the three Unit 2 inter-bus transformer deluge systems. The Unit 2 startup transformer is an integral part of one of the two qualified circuits specified in Technical Specification 3.8.1 between the offsite electrical transmission network and the onsite 4160-volt safety-related electrical system. Corrective actions included immediate posting of compensatory actions and warming of the space to prevent further damage to the system until repairs were completed.

The finding was determined to be more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the procedure did not direct the licensee to take proactive steps to limit the likelihood of extreme cold weather freezing and breaking the fire protection piping located on the Unit 2 turbine power complex elevation 593’ level. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.2, "Fixed Fire Protection Systems," to the finding and by answering "yes" in Step 1.3 A, "Is the reactor able to reach and maintain safe shutdown (either hot or cold) condition?" the inspectors determined that the finding was of very low safety significance. The finding was determined to have a cross-cutting aspect in the area of human performance, avoid complacency, where individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee did not identify that the fire protection deluge valves and piping in the Unit 2 turbine power complex were subject to freezing, even though extreme cold conditions had existed in prior weeks, allowing the licensee ample time for additional walkdowns to ensure that the plant was ready for the extreme cold weather event the first week of January 2014 (H.12).

Inspection Report# : [2014002 \(pdf\)](#)

G**Significance:** Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Required 3-Hour Fire Barriers (Seals) Were In-Place

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Perry Operating License Condition 2.C(6) for failure to establish a required 3-hour fire barrier as required by design. Specifically, on March 13, 2014, the inspectors identified four incomplete fire barrier seals in ceiling-level penetrations between the Division 1 and Division 2 battery rooms and the adjoining direct current (DC) switchgear rooms, and on March 14 identified the lack of a fire barrier seal in a ceiling-level penetration between the remote shutdown panel room and an adjoining alternating current (AC) switchgear room. The licensee implemented compensatory measures that included hourly fire watches and entered the issues into the corrective action program.

The finding was determined to be more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the lack of a barrier caused the required 3-hour barrier required by design to be non-functional. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.3, "Fire Confinement," to the finding, which was determined to be of very low safety significance. For the battery room seals, the inspectors identified a cross-cutting aspect in the area of human performance, work management, where the organization implements a process for planning and controlling, and executing work activities such that nuclear safety is the overriding priority (H.5). Specifically, the licensee did not follow its procedures when the fire seal material was formed in the workshop and then installed in the openings instead of being formed in situ as required by the licensee's procedures (H.5). The inspectors determined there was no cross-cutting aspect associated with the lack of a fire seal in the remote shutdown panel room because it did not reflect current performance.

Inspection Report# : [2014002 \(pdf\)](#)**G****Significance:** Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MEET FIRE BRIGADE DRILL TRAINING REQUIREMENTS

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of License Condition 2.C(6) for failure to ensure that an individual met the fire drill participation requirements for fire brigade members and fire brigade leaders. Specifically, certified fire brigade members and fire brigade leaders are required to participate in at least two drills per year and in one case the licensee failed to conduct proper drills as required by the license condition. The issue was entered into the licensee's corrective action program as Condition Report 2013-12964, and the licensee initiated immediate action to ensure that all current fire brigade members/leaders met drill participation requirements prior to fulfilling those roles.

The inspectors determined that the failure to conduct proper drills was a performance deficiency and was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because the finding was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors for Fire and adversely affected the associated cornerstone objective of ensuring the reliability and capability of the fire brigade to respond to initiating events to prevent undesirable consequences. Because the licensee failed to ensure that fire brigade members and fire brigade leaders met the licensee's qualification requirements of participating in at least two fire drills per year, the mitigating systems cornerstone attribute to ensure the availability and reliability of the fire brigade to respond to initiating events was impacted. The finding was evaluated using IMC 0609, Significance Determination Process (SDP), Attachment

0609.04, "Initial Characterization of Findings," dated June 19, 2012. Because the finding involved the Fire Brigade, Table 3, SDP Appendix Router, Section E.1, "Fire Protection," directed NRC staff to use IMC 0609, Appendix A, "The SDP for Findings At-Power," dated June 19, 2012. Exhibit 2 of IMC 0609, the Mitigating Systems Screening Questions, Section D.1.a., Fire Brigade, was checked "yes" because the finding involved the Fire Brigade training and qualification requirements. The first condition under D.1.a., "The fire brigade demonstrated the ability to meet the required times for fire extinguishment for drill scenarios," was applicable and the finding did not significantly affect the ability of the fire brigade to respond to a fire, so the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component, in that the licensee did not take corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to identify that all drill requirements for fire brigade personnel as required in Branch Technical Position APCSB 9.5-1, Appendix A, which requires specific factors that qualify a drill for training purposes, was not used to plan and execute drills for personnel re-qualifying for this watch position during 2012 and 2013 (P.1(d)).

Inspection Report# : [2013004 \(pdf\)](#)

Significance: Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient Controls to Prevent Common Mode Flooding of ECCS Rooms (Section 4OA2.1.b(1))

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to control drainage of the emergency core cooling system room sumps in a manner that prevents common mode flooding of these rooms. Specifically, procedures did not ensure appropriate controls to prevent backflow from the floor drain system. The licensee entered the issue into their Corrective Action Program and revised procedures to prevent opening more than one emergency core cooling system room sump isolation valve at the same time.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of protection against external factors and affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency core cooling system to respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because it did not result in either the loss of operability or an actual loss or degradation of a function designed to mitigate flooding. Specifically, a review of recent plant history did not find an instance where the configuration of the floor drain system allowed common mode flooding of the emergency core cooling system rooms when operability of this system was required. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not conduct a self-assessment of sufficient depth. Specifically, the licensee evaluated a flooding incident during a self-assessment conducted in 2013 and failed to thoroughly evaluate the cause that resulted in common mode flooding of the rooms.

Inspection Report# : [2013008 \(pdf\)](#)

Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE RESULTED IN LOSS OF HIGH-PRESSURE CORE SPRAY FUNCTION

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for high-pressure core spray (HPCS) emergency core cooling systems integrated testing. The surveillance procedure used for the HPCS, safety-related electrical bus, EH13, testing during refueling outage 14, directly resulted in an unplanned outage of the bus for nearly 4 hours. The licensee entered the issue into the

corrective action program as Condition Report 2013-03863.

The inspectors determined that the failure to develop a correct surveillance procedure required by Technical Specification 5.4.1 a. was a performance deficiency and resulted in an unplanned loss of the EH13 safety-related electric bus and caused a loss of function for HPCS. The performance deficiency was determined to be more than minor, and thus a finding, using IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2 – Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors answered "yes" to Question 2, "Does the finding represent a loss of system and/or function?" A detailed risk evaluation was conducted by the Region III Senior Reactor Analyst (SRA). The SRA performed an evaluation using the NRC's Standardized Plant Analysis Risk model for Perry. The SRA assumed that EH13 was unavailable for 4 hours. The change in core damage frequency was estimated to be much less than 1E-6/yr, which represents a finding of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance associated with the work control component, in that, the licensee failed to appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope or activities which could affect the plant. Specifically, the development of a new surveillance procedure did not correctly predict the plant response for the safety-related system test lineup and resulted in an unplanned loss of the EH13 safety-related electric bus (H.3(b)).

Inspection Report# : [2013002](#) (pdf)

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Significance: May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

VALVE MIS-POSITION CAUSES SDV LEVEL DETECTOR INOPERABILITY

A self-revealed finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1.a., "Procedures," was identified for the licensee's failure to correctly implement a surveillance procedure for calibration of a scram discharge volume (SDV) level detector. Specifically, licensee technicians failed to open and lock open, with independent verification, the lower isolation valve to an SDV level detector. The licensee documented the issue in the corrective action program as Condition Report 2013-04452.

The inspectors determined that the failure to correctly complete the procedure and lock open the lower isolation valve was a performance deficiency which resulted in a locked in scram signal with a resulting inability to clear the signal and restore safety-related systems after the scram (to begin a refueling outage) for several days. The performance deficiency was evaluated under Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, and determined to be more than minor, and thus a finding, because it was associated with the human performance attribute of the Mitigating Systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. By answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined this finding was of very low safety significance because the finding did not affect other diverse methods of reactor shutdown, it did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that the licensee communicates human error prevention techniques, that techniques are used commensurate with the risk of the assigned task, and personnel do not proceed in the face of uncertainty or unexpected circumstances. Specifically, the independent verifier found the valve in an unexpected condition with a locking device already installed, did not stop the process and question the valve position, but proceeded in the face of uncertainty (H.4(a))

Inspection Report# : [2013002 \(pdf\)](#)**G****Significance:** May 03, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES FOR CONDUCTING A STANDBY LIQUID CONTROL SYSTEM SURVEILLANCE

A self-revealed finding of very low safety significance and associated non cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the licensee failed to correctly implement procedures for testing safety related equipment. Specifically, the licensee failed to correctly implement prerequisite steps in a surveillance instruction, causing the standby liquid control (SLC) pump 'A' plunger pot drain valves to be left open, contrary to procedure. The licensee entered the finding into the corrective action program as Condition Report 2013-00114 and took immediate action to close the valves when leakage was discovered from the drain valve tailpipes.

The inspectors determined that the failure to correctly complete the prerequisite steps in surveillance instruction (SVI)-C41-T2001-A was a performance deficiency which resulted in a water spill in containment, an associated lockup of the rod control and information system (RCIS), and required the licensee to enter two off-normal instructions (ONIs). The performance deficiency was determined to be more than minor, and thus a finding, using Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, because it is similar to Example 4.b and resulted in an unexpected, "Inhibit Rod Motion RCIS OOS," alarm and caused the operating crew to enter ONI-C11-1, "Inability to Move Control Rods." The finding was evaluated for significance using IMC 0609, Attachment 0609.04, dated June 19, 2012, and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012. In answering "no" to "C. Reactivity Control Systems," questions 1, 2, and 3, the inspectors determined that the finding was of very low safety significance because the finding did not affect a reactor protection system trip signal, did not add positive reactivity, nor did it result in the mismanagement of reactivity by an operator. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component, in that licensee personnel failed to use human error prevention techniques, such as holding a pre-job briefing, self and peer checking, and proper documentation of activities. Specifically, the operation to position the plunger pot drain valves on the 'A' and 'B' SLC pumps was not coordinated by the field supervisor in accordance with the SVI and operations personnel proceeded in the face of uncertainty or unexpected circumstances (H.4(a)).

Inspection Report# : [2013002 \(pdf\)](#)

Barrier Integrity

G**Significance:** Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION 3.4.11

. The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," for failure to comply with reactor pressure vessel pressure/temperature limits. Specifically, in 2011 the inspectors identified the pressure/temperature limits in Technical Specification 3.4.11 only contained values for reactor pressure vessel pressures greater than 0

pounds per square inch gauge. However, between June 2011 and July 2013, the licensee operated the plant with a vacuum in the reactor pressure vessel during 5 cold startups and 1 cooldown. The licensee entered the finding into its corrective action program as Condition Report CR 2013-18689.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Performance within the Human Performance attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that a physical design barrier (reactor coolant system) protects the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance because it was determined that there was no change in risk due to the performance deficiency. This finding has a cross-cutting aspect in the area of human performance, resources. Specifically, complete, accurate, and up-to-date procedures were not available to operators to ensure operations within the requirements of Technical Specification 3.4.11, (H.2(c)).

Inspection Report# : [2013007](#) (pdf)

G

Significance: Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A NON-CONSERVATIVE TECHNICAL SPECIFICATION

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure to promptly correct a non-conservative Technical Specification. Specifically, the inspectors identified on November 14, 2013, that the licensee failed to promptly correct the non-conservative Technical Specification 3.4.11 by not submitting a license amendment request in accordance with NRC Administrative Letter 98-10, which required submittal within 1 year or 1 operating cycle. The licensee had determined Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," to be non-conservative on October 16, 2009, and implemented administrative controls as allowed by the Administrative Letter. As of November 14, 2013, the licensee had not submitted the license amendment request, over 4 years and 2 operating cycles after determining the Technical Specification was non-conservative. The licensee entered the finding into the corrective action program as Condition Report CR 2013-18983.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Procedures within the Procedure Quality attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The finding was screened as very low safety significance because it was determined that operators followed the appropriate reactor coolant system P/T curves even though the Technical Specification was non-conservative.

The finding has a cross-cutting aspect in the area of human performance, decision-making, where licensee decisions demonstrate that nuclear safety is an overriding priority. Specifically, from the time of discovery of the non-conservative technical specification until now, various decisions had been made by the licensee that have delayed the timely submittal of the license amendment request (H.1(c)).

Inspection Report# : [2013007](#) (pdf)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedural Requirements for RWCU System Fill and Vent

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4,

"Procedures," was self-revealed when the licensee failed to adhere to procedural requirements during the filling and venting of the reactor water cleanup (RWCU) system. Specifically, on April 26, 2013, valves 1G33-F008A and F556A were left in the open position, contrary to the requirements of step 7.16.9 of procedure SOI-G33, revision 36, and resulted in the RWCU system being aligned to the condensate transfer and storage system. This valve misposition event also resulted in the TS 3.6.1.3 inoperability of the containment isolation valve 1P11F0545. Upon discovery of the condition, the licensee promptly corrected the error and entered the condition into its corrective action program as condition report 2013 07483, and performed an apparent cause evaluation.

The inspectors reviewed Inspection Manual Chapter (MC) 0612, Appendix B, "Issue Screening," and determined that the issue was more than minor because it was associated with the Barrier Integrity Cornerstone attribute of configuration control and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination Process." This finding has a cross cutting aspect in the area of human performance, work practices, for the licensee's failure to successfully incorporate human error prevention techniques, such as self and peer checks.

Inspection Report# : [2013009 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

WORKER ACCESS INTO A HIGH RADIATION AREA CONTRARY TO THE REQUIREMENTS OF THE RADIATION WORK PERMIT

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.4.1 was self-revealed through an electronic dosimeter alarm when, on August 6, 2013, a licensee worker inappropriately entered a high radiation area in the overhead of Auxiliary Building 574'. The inspectors concluded that the worker failed to comply with the requirements of his radiation work permit that prohibited work 6 feet above floor level until a radiological survey is performed and radiation protection verifies that the area met the requirements of the radiation work permit. This issue was entered into the licensee's corrective action program as Condition Report 2013 12077. Corrective actions focused on performance management of the individual involved.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined that the issue was more than minor because it was similar to Example 6(h). The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors identified no cross-cutting issues associated with this finding.

Inspection Report# : [2013004 \(pdf\)](#)

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO FOLLOW PROCEDURE IN MINIMIZING DOSE INSIDE A LOCKED HIGH RADIATION AREA IN THE TURBINE BUILDING 620' AUXILIARY STEAM TUNNEL

The inspectors reviewed a self-revealed finding (FIN) of very low safety significance involving an unauthorized activity inside a radiologically contaminated locked high radiation area. Specifically, on April 30, 2013, licensee contract personnel inappropriately placed a plastic container of goldfish inside the Turbine Building 620' auxiliary steam tunnel. This issue was entered into the licensee's corrective action program as Condition Report 2013-06758. Corrective actions included performance management of the individuals involved.

The inspectors determined that the finding was more than minor, in accordance with Inspection Manual Chapter (IMC) 0612 because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process of radiological exposure and contamination control and adversely affected the associated cornerstone objective to ensure adequate protection of worker health and safety from exposure to radioactive materials during routine civilian nuclear reactor operation. The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated November 28, 2011. Additionally, the inspectors determined that the primary cause of this finding was related to the cross-cutting aspect in the area of human performance in work practices. Specifically, the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2013004 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Operational and Radiological Controls Necessary to Prevent Plant Manipulations from Adversely Impacting Dose Rates or Airborne Radioactivity Levels

The inspectors identified a finding of very low safety significance and associated non-cited violation of Technical Specification (TS) 5.4, "Procedures." Specifically,

TS 5.4 "Procedures", Step 5.4.1 states, in part, that the licensee shall establish, implement, and maintain applicable procedures recommended in Regulatory Guide

(RG) 1.33, Revision 2, Appendix A. Section 7 of Appendix A of RG 1.33 specifies radiation protection procedures for control of radioactivity for limiting personnel exposures. Licensee procedure NOP-OP-4107, "Radiation Work Permit," requires that radiological controls identify "critical steps or critical instructions for positive radiological control of the work to ensure no change on unexpected change in radiological conditions, and prevent unplanned exposure." Contrary to this, on six occasions during the spring 2013 refueling outage, the licensee failed to implement operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological dose rates or airborne radioactivity levels in the plant when workers were in the areas. The licensee documented this issue in its corrective action program as condition report 2013-09891. As an immediate corrective action, the licensee instituted the appropriate operational and radiological controls to ensure personnel safety.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening" and determined that the issue was more than minor because, if left uncorrected, the performance deficiency could have led to a more significant safety concern. Specifically, not implementing the operational and radiological controls necessary to prevent plant manipulations from adversely impacting ambient radiological conditions in the plant could result in unnecessary and unplanned radiation exposures. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupation Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work-control, because the licensee did not appropriately plan work activities when developing the work packages and authorizing

the work.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Lock or Continuously Guard Doors to Prevent Unauthorized Entry to an LHRA

A finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7, "High Radiation Area," was self-revealed when the access point to the locked high radiation area of the auxiliary steam tunnel on the 620'-elevation of the turbine building was left unattended on May 1, 2013, for about 8 minutes. This issue was entered into the licensee's corrective action program as condition report 2013-06892. As immediate corrective actions, access to the area was guarded and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported.

Inspection Report# : [2013009 \(pdf\)](#)

G

Significance: Jun 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Post and Barricade a HRA in the Under-Condenser Area Turbine Building Cubicles 13 and 14

The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7. "High Radiation Area," when the inspectors identified an unposted, unbarriered high radiation area under the condenser in turbine building cubicles 13 and 14 that was accessible to personnel by scaffold. This issue was entered into the licensee's corrective action program as condition report 2013-06139. As an immediate corrective action, the scaffold was removed and appropriate controls were instituted.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because it was similar to Example 6(g). The inspectors also determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee did not thoroughly evaluate and address this issue when initially identified by the NRC in 2011 or during the licensee's extent of condition evaluations.

Inspection Report# : [2013009 \(pdf\)](#)

Public Radiation Safety

G**Significance:** Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REPRESENTATIVE SAMPLING OF FISH IN ORDER TO ACCURATELY ASSESS INGESTION RADIATION AS REQUIRED BY THE OFF-SITE DOSE CALCULATION MANUAL

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)." Specifically, the licensee failed to follow the "Fish and Invertebrates" sampling requirements specified in the ODCM. Corrective actions were being developed in the corrective action program (Condition Report 2013 14987) and senior plant management expressed the understanding that sampling was important and the condition would be corrected.

The finding was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program and process of projected offsite dose and adversely affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The finding was assessed using Inspection Manual Chapter (IMC) 0609, Attachment D, dated February 12, 2008, for the Public Radiation Safety Significance Determination Process and determined to be of very low safety significance because it involved the Environmental Monitoring Program. Additionally, the inspectors determined that the primary cause of this finding was related to the cross cutting aspect in the area of human performance in work practices. Specifically, the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures (H.4(b)).

Inspection Report# : [2013004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : May 30, 2014

Perry 1 2Q/2014 Plant Inspection Findings

Initiating Events

Significance: N/A Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency

Inspection Report# : [2013008 \(pdf\)](#)

G

Significance: G Jul 28, 2013

Identified By: NRC

Item Type: FIN Finding

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency.

Inspection Report# : [2013008 \(pdf\)](#)

Mitigating Systems

G**Significance:** Jun 30, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Promptly Correct a Condition Adverse to Quality on Division 2 EDG

A self-revealed finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR, Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified on May 7, 2014, for the failure to correct a condition adverse to quality. Specifically, the licensee failed to correct a lube oil leak, identified by operations personnel on April 12, 2014, during the monthly run of the Division 2 Emergency Diesel Generator (EDG). As discussed in Condition Report (CR) 2014-06755, the leak was from a Swagelok fitting on the turbocharger supply line and at a rate of less than an ounce per hour. The CR was closed to a work order to complete repairs. On May 7, the next scheduled surveillance run of the Division 2 EDG occurred. The leak had not been repaired and, during the run, became progressively worse resulting in an unplanned (emergency) shutdown of the diesel and the diesel being declared inoperable. The leak was quantified as approximately a gallon per hour at the time of the shutdown (CR 2014-08487). The line was repaired and the diesel was returned to operable status on May 8. The licensee promptly evaluated the other EDGs and determined that a common cause condition did not exist. The failure was caused by fatigue cracking of the Swagelok fitting due to misalignment during installation. A root cause evaluation was conducted by the licensee.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because there was no design deficiency, no actual loss of safety function, and no single train loss of safety function for greater than the Technical Specification (TS)-allowed outage time. This finding has a cross-cutting aspect in the area of problem identification and resolution evaluation, for the failure to thoroughly evaluate the issue and ensure that the resolution addressed the cause and extent of condition when identified in April 2014.

Inspection Report# : [2014003 \(pdf\)](#)**G****Significance:** Mar 31, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure for Extreme Cold Weather

A self-revealed finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1.a was identified for the licensee's failure to maintain adequate procedures to respond to acts of nature as required by Regulatory Guide 1.33, "Quality Assurance Program Requirements." Specifically, the cold weather procedure did not adequately direct equipment walkdowns and subsequent actions to protect equipment important to safety from severe weather risks, directly resulting in freezing and breaking of fire protection piping in Unit 2 turbine power complex, elevation 593' level. The piping provides fire protection for Unit 2 startup transformer's deluge system and the three Unit 2 inter-bus transformer deluge systems. The Unit 2 startup transformer is an integral part of one of the two qualified circuits specified in Technical Specification 3.8.1 between the offsite electrical transmission network and the onsite 4160-volt safety-related electrical system. Corrective actions included

immediate posting of compensatory actions and warming of the space to prevent further damage to the system until repairs were completed.

The finding was determined to be more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the procedure did not direct the licensee to take proactive steps to limit the likelihood of extreme cold weather freezing and breaking the fire protection piping located on the Unit 2 turbine power complex elevation 593' level. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.2, "Fixed Fire Protection Systems," to the finding and by answering "yes" in Step 1.3 A, "Is the reactor able to reach and maintain safe shutdown (either hot or cold) condition?" the inspectors determined that the finding was of very low safety significance. The finding was determined to have a cross-cutting aspect in the area of human performance, avoid complacency, where individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee did not identify that the fire protection deluge valves and piping in the Unit 2 turbine power complex were subject to freezing, even though extreme cold conditions had existed in prior weeks, allowing the licensee ample time for additional walkdowns to ensure that the plant was ready for the extreme cold weather event the first week of January 2014 (H.12).

Inspection Report# : [2014002 \(pdf\)](#)

Significance: Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Required 3-Hour Fire Barriers (Seals) Were In-Place

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Perry Operating License Condition 2.C(6) for failure to establish a required 3-hour fire barrier as required by design. Specifically, on March 13, 2014, the inspectors identified four incomplete fire barrier seals in ceiling-level penetrations between the Division 1 and Division 2 battery rooms and the adjoining direct current (DC) switchgear rooms, and on March 14 identified the lack of a fire barrier seal in a ceiling-level penetration between the remote shutdown panel room and an adjoining alternating current (AC) switchgear room. The licensee implemented compensatory measures that included hourly fire watches and entered the issues into the corrective action program.

The finding was determined to be more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the lack of a barrier caused the required 3-hour barrier required by design to be non-functional. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.3, "Fire Confinement," to the finding, which was determined to be of very low safety significance. For the battery room seals, the inspectors identified a cross-cutting aspect in the area of human performance, work management, where the organization implements a process for planning and controlling, and executing work activities such that nuclear safety is the overriding priority (H.5). Specifically, the licensee did not follow its procedures when the fire seal material was formed in the workshop and then installed in the openings instead of being formed in situ as required by the licensee's procedures (H.5). The inspectors determined there was no cross-cutting aspect associated with the lack of a fire seal in the remote shutdown panel room because it did not reflect current performance.

Inspection Report# : [2014002 \(pdf\)](#)

Significance: Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MEET FIRE BRIGADE DRILL TRAINING REQUIREMENTS

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of License Condition 2.C(6) for failure to ensure that an individual met the fire drill participation requirements for fire brigade members and fire brigade leaders. Specifically, certified fire brigade members and fire brigade leaders are required to participate in at least two drills per year and in one case the licensee failed to conduct proper drills as required by the license condition. The issue was entered into the licensee's corrective action program as Condition Report 2013-12964, and the licensee initiated immediate action to ensure that all current fire brigade members/leaders met drill participation requirements prior to fulfilling those roles.

The inspectors determined that the failure to conduct proper drills was a performance deficiency and was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because the finding was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors for Fire and adversely affected the associated cornerstone objective of ensuring the reliability and capability of the fire brigade to respond to initiating events to prevent undesirable consequences. Because the licensee failed to ensure that fire brigade members and fire brigade leaders met the licensee's qualification requirements of participating in at least two fire drills per year, the mitigating systems cornerstone attribute to ensure the availability and reliability of the fire brigade to respond to initiating events was impacted. The finding was evaluated using IMC 0609, Significance Determination Process (SDP), Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012. Because the finding involved the Fire Brigade, Table 3, SDP Appendix Router, Section E.1, "Fire Protection," directed NRC staff to use IMC 0609, Appendix A, "The SDP for Findings At-Power," dated June 19, 2012. Exhibit 2 of IMC 0609, the Mitigating Systems Screening Questions, Section D.1.a., Fire Brigade, was checked "yes" because the finding involved the Fire Brigade training and qualification requirements. The first condition under D.1.a., "The fire brigade demonstrated the ability to meet the required times for fire extinguishment for drill scenarios," was applicable and the finding did not significantly affect the ability of the fire brigade to respond to a fire, so the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component, in that the licensee did not take corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to identify that all drill requirements for fire brigade personnel as required in Branch Technical Position APCSB 9.5-1, Appendix A, which requires specific factors that qualify a drill for training purposes, was not used to plan and execute drills for personnel re-qualifying for this watch position during 2012 and 2013 (P.1(d)).

Inspection Report# : [2013004 \(pdf\)](#)

G

Significance: Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient Controls to Prevent Common Mode Flooding of ECCS Rooms (Section 4OA2.1.b(1))

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to control drainage of the emergency core cooling system room sumps in a manner that prevents common mode flooding of these rooms. Specifically, procedures did not ensure appropriate controls to prevent backflow from the floor drain system. The licensee entered the issue into their Corrective Action Program and revised procedures to prevent opening more than one emergency core cooling system room sump isolation valve at the same time.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of protection against external factors and affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency core cooling system to respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because

it did not result in either the loss of operability or an actual loss or degradation of a function designed to mitigate flooding. Specifically, a review of recent plant history did not find an instance where the configuration of the floor drain system allowed common mode flooding of the emergency core cooling system rooms when operability of this system was required. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not conduct a self-assessment of sufficient depth. Specifically, the licensee evaluated a flooding incident during a self-assessment conducted in 2013 and failed to thoroughly evaluate the cause that resulted in common mode flooding of the rooms.

Inspection Report# : [2013008 \(pdf\)](#)

Barrier Integrity

Significance: Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION 3.4.11

. The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," for failure to comply with reactor pressure vessel pressure/temperature limits. Specifically, in 2011 the inspectors identified the pressure/temperature limits in Technical Specification 3.4.11 only contained values for reactor pressure vessel pressures greater than 0 pounds per square inch gauge. However, between June 2011 and July 2013, the licensee operated the plant with a vacuum in the reactor pressure vessel during 5 cold startups and 1 cooldown. The licensee entered the finding into its corrective action program as Condition Report CR 2013-18689.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Performance within the Human Performance attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that a physical design barrier (reactor coolant system) protects the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance because it was determined that there was no change in risk due to the performance deficiency. This finding has a cross-cutting aspect in the area of human performance, resources. Specifically, complete, accurate, and up-to-date procedures were not available to operators to ensure operations within the requirements of Technical Specification 3.4.11, (H.2(c)).

Inspection Report# : [2013007 \(pdf\)](#)

Significance: Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A NON-CONSERVATIVE TECHNICAL SPECIFICATION

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure to promptly correct a non-conservative Technical Specification. Specifically, the inspectors identified on November 14, 2013, that the licensee failed to promptly correct the non-conservative Technical Specification 3.4.11 by not submitting a license amendment request in accordance with NRC Administrative Letter 98-10, which required submittal within 1 year or 1 operating cycle. The licensee had determined Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," to be non-conservative on October 16, 2009, and implemented administrative controls as allowed by the Administrative Letter. As of November 14, 2013, the licensee had not submitted the license amendment request,

over 4 years and 2 operating cycles after determining the Technical Specification was non-conservative. The licensee entered the finding into the corrective action program as Condition Report CR 2013-18983.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Procedures within the Procedure Quality attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The finding was screened as very low safety significance because it was determined that operators followed the appropriate reactor coolant system P/T curves even though the Technical Specification was non-conservative.

The finding has a cross-cutting aspect in the area of human performance, decision-making, where licensee decisions demonstrate that nuclear safety is an overriding priority. Specifically, from the time of discovery of the non-conservative technical specification until now, various decisions had been made by the licensee that have delayed the timely submittal of the license amendment request (H.1(c)).

Inspection Report# : [2013007 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

WORKER ACCESS INTO A HIGH RADIATION AREA CONTRARY TO THE REQUIREMENTS OF THE RADIATION WORK PERMIT

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.4.1 was self-revealed through an electronic dosimeter alarm when, on August 6, 2013, a licensee worker inappropriately entered a high radiation area in the overhead of Auxiliary Building 574'. The inspectors concluded that the worker failed to comply with the requirements of his radiation work permit that prohibited work 6 feet above floor level until a radiological survey is performed and radiation protection verifies that the area met the requirements of the radiation work permit. This issue was entered into the licensee's corrective action program as Condition Report 2013 12077. Corrective actions focused on performance management of the individual involved.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined that the issue was more than minor because it was similar to Example 6(h). The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors identified no cross-cutting issues associated with this finding.

Inspection Report# : [2013004 \(pdf\)](#)

Significance: Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO FOLLOW PROCEDURE IN MINIMIZING DOSE INSIDE A LOCKED HIGH RADIATION AREA IN THE TURBINE BUILDING 620' AUXILIARY STEAM TUNNEL

The inspectors reviewed a self-revealed finding (FIN) of very low safety significance involving an unauthorized activity inside a radiologically contaminated locked high radiation area. Specifically, on April 30, 2013, licensee contract personnel inappropriately placed a plastic container of goldfish inside the Turbine Building 620' auxiliary steam tunnel. This issue was entered into the licensee's corrective action program as Condition Report 2013-06758. Corrective actions included performance management of the individuals involved.

The inspectors determined that the finding was more than minor, in accordance with Inspection Manual Chapter (IMC) 0612 because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process of radiological exposure and contamination control and adversely affected the associated cornerstone objective to ensure adequate protection of worker health and safety from exposure to radioactive materials during routine civilian nuclear reactor operation. The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated November 28, 2011. Additionally, the inspectors determined that the primary cause of this finding was related to the cross-cutting aspect in the area of human performance in work practices. Specifically, the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2013004 \(pdf\)](#)

Public Radiation Safety

Significance: Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REPRESENTATIVE SAMPLING OF FISH IN ORDER TO ACCURATELY ASSESS INGESTION RADIATION AS REQUIRED BY THE OFF-SITE DOSE CALCULATION MANUAL

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)." Specifically, the licensee failed to follow the "Fish and Invertebrates" sampling requirements specified in the ODCM. Corrective actions were being developed in the corrective action program (Condition Report 2013 14987) and senior plant management expressed the understanding that sampling was important and the condition would be corrected.

The finding was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program and process of projected offsite dose and adversely affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The finding was assessed using Inspection Manual Chapter (IMC) 0609, Attachment D, dated February 12, 2008, for the Public Radiation Safety Significance Determination Process and determined to be of very low safety significance because it involved the Environmental Monitoring Program. Additionally, the inspectors determined that the primary cause of this finding was related to the cross cutting aspect in the area of human performance in work practices. Specifically, the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures (H.4(b)).

Inspection Report# : [2013004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2014

Perry 1

3Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Jun 30, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Promptly Correct a Condition Adverse to Quality on Division 2 EDG

A self-revealed finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR, Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified on May 7, 2014, for the failure to correct a condition adverse to quality. Specifically, the licensee failed to correct a lube oil leak, identified by operations personnel on April 12, 2014, during the monthly run of the Division 2 Emergency Diesel Generator (EDG). As discussed in Condition Report (CR) 2014-06755, the leak was from a Swagelok fitting on the turbocharger supply line and at a rate of less than an ounce per hour. The CR was closed to a work order to complete repairs. On May 7, the next scheduled surveillance run of the Division 2 EDG occurred. The leak had not been repaired and, during the run, became progressively worse resulting in an unplanned (emergency) shutdown of the diesel and the diesel being declared inoperable. The leak was quantified as approximately a gallon per hour at the time of the shutdown (CR 2014-08487). The line was repaired and the diesel was returned to operable status on May 8. The licensee promptly evaluated the other EDGs and determined that a common cause condition did not exist. The failure was caused by fatigue cracking of the Swagelok fitting due to misalignment during installation. A root cause evaluation was conducted by the licensee.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because there was no design deficiency, no actual loss of safety function, and no single train loss of safety function for greater than the Technical Specification (TS)-allowed outage time. This finding has a cross-cutting aspect in the area of problem identification and resolution evaluation, for the failure to thoroughly evaluate the issue and ensure that the resolution addressed the cause and extent of condition when identified in April 2014.

Inspection Report# : [2014003 \(pdf\)](#)

Significance: G Mar 31, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure for Extreme Cold Weather

A self-revealed finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1.a was identified for the licensee's failure to maintain adequate procedures to respond to acts of nature as required by Regulatory Guide 1.33, "Quality Assurance Program Requirements." Specifically, the cold weather procedure did not adequately direct equipment walkdowns and subsequent actions to protect equipment

important to safety from severe weather risks, directly resulting in freezing and breaking of fire protection piping in Unit 2 turbine power complex, elevation 593' level. The piping provides fire protection for Unit 2 startup transformer's deluge system and the three Unit 2 inter-bus transformer deluge systems. The Unit 2 startup transformer is an integral part of one of the two qualified circuits specified in Technical Specification 3.8.1 between the offsite electrical transmission network and the onsite 4160-volt safety-related electrical system. Corrective actions included immediate posting of compensatory actions and warming of the space to prevent further damage to the system until repairs were completed.

The finding was determined to be more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the procedure did not direct the licensee to take proactive steps to limit the likelihood of extreme cold weather freezing and breaking the fire protection piping located on the Unit 2 turbine power complex elevation 593' level. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.2, "Fixed Fire Protection Systems," to the finding and by answering "yes" in Step 1.3 A, "Is the reactor able to reach and maintain safe shutdown (either hot or cold) condition?" the inspectors determined that the finding was of very low safety significance. The finding was determined to have a cross-cutting aspect in the area of human performance, avoid complacency, where individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee did not identify that the fire protection deluge valves and piping in the Unit 2 turbine power complex were subject to freezing, even though extreme cold conditions had existed in prior weeks, allowing the licensee ample time for additional walkdowns to ensure that the plant was ready for the extreme cold weather event the first week of January 2014 (H.12).

Inspection Report# : [2014002 \(pdf\)](#)

G

Significance: Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Required 3-Hour Fire Barriers (Seals) Were In-Place

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Perry Operating License Condition 2.C(6) for failure to establish a required 3-hour fire barrier as required by design. Specifically, on March 13, 2014, the inspectors identified four incomplete fire barrier seals in ceiling-level penetrations between the Division 1 and Division 2 battery rooms and the adjoining direct current (DC) switchgear rooms, and on March 14 identified the lack of a fire barrier seal in a ceiling-level penetration between the remote shutdown panel room and an adjoining alternating current (AC) switchgear room. The licensee implemented compensatory measures that included hourly fire watches and entered the issues into the corrective action program.

The finding was determined to be more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the lack of a barrier caused the required 3-hour barrier required by design to be non-functional. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.3, "Fire Confinement," to the finding, which was determined to be of very low safety significance. For the battery room seals, the inspectors identified a cross-cutting aspect in the area of human performance, work management, where the organization implements a process for planning and controlling, and executing work activities such that nuclear safety is the overriding priority (H.5). Specifically, the licensee did not follow its procedures when the fire seal material was formed in the workshop and then installed in the openings instead of being formed in situ as required by the licensee's procedures (H.5). The inspectors determined there was no cross-cutting aspect associated with the lack of a fire seal in the remote shutdown panel room because it did not reflect current performance.

Inspection Report# : [2014002 \(pdf\)](#)

Barrier Integrity

G

Significance: Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Revised NCV to Appendix B, Criterion V for Rx Vessel Pressure/Temperature Controls

By letter dated September 3, 2014, the NRC stated: We have concluded that a violation of TS 3.4.11 did not occur during the 5 reactor cold startups and 1 cooldown discussed in the inspection report, however, we have concluded that the operation of the reactor outside of the parameters of the analysis involved a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Criterion V requires, in part, that activities affecting quality be prescribed by procedures appropriate to the circumstances. Startup and cooldown of the reactor are activities affecting quality and the instructions and procedures used by the operators for these activities, IOI-1, "Cold Startup"; IOI 4, "Shutdown"; and Surveillance Instruction (SVI)-B21-T1176, "RCS Heatup and Cooldown Surveillance," were not appropriate to the circumstances. Specifically, they allowed reactor vessel pressure during the 5 cold startups and 1 cooldown from June 2011 through July 2013 to be less than 0 pounds per square inch gauge, outside of the pressure parameter inputs to the analysis that is the basis for the pressure/temperature limit curves of TS 3.4.11.

The cross-cutting aspect identified in NRC Inspection Report 05000440/2013007 for the previously documented NCV of TS 3.4.11 is appropriate to the Criterion V violation, as is our previous determination of very low safety significance (Green). The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Performance within the Human Performance attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that a physical design barrier (reactor coolant system) protects the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance because it was determined that there was no change in risk due to the performance deficiency. This finding has a cross-cutting aspect in the area of human performance, resources. Specifically, complete, accurate, and up-to-date procedures were not available to operators to ensure operations within the requirements of Technical Specification 3.4.11, (H.2(c)).

Inspection Report# : [2013007 \(pdf\)](#)

G

Significance: Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A NON-CONSERVATIVE TECHNICAL SPECIFICATION

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure to promptly correct a non-conservative Technical Specification. Specifically, the inspectors identified on November 14, 2013, that the licensee failed to promptly correct the non-conservative Technical Specification 3.4.11 by not submitting a license amendment request in accordance with NRC Administrative Letter 98-10, which required submittal within 1 year or 1 operating cycle. The licensee had determined Technical Specification 3.4.11, "RCS Pressure and Temperature (P/T) Limits," to be non-conservative on October 16, 2009, and implemented administrative controls as allowed by the Administrative Letter. As of November 14, 2013, the licensee had not submitted the license amendment request, over 4 years and 2 operating cycles after determining the Technical Specification was non-conservative. The licensee entered the finding into the corrective action program as Condition Report CR 2013-18983.

The performance deficiency was determined to be more than minor because the finding was associated with the area

of Routine Operations Procedures within the Procedure Quality attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The finding was screened as very low safety significance because it was determined that operators followed the appropriate reactor coolant system P/T curves even though the Technical Specification was non-conservative.

The finding has a cross-cutting aspect in the area of human performance, decision-making, where licensee decisions demonstrate that nuclear safety is an overriding priority. Specifically, from the time of discovery of the non-conservative technical specification until now, various decisions had been made by the licensee that have delayed the timely submittal of the license amendment request (H.1(c)).

Inspection Report# : [2013007 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Significance:  Sep 30, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RADIOACTIVE MATERIAL FOUND OFF-SITE AT A SCRAP METAL VENDOR FACILITY

A self-revealed finding of very low safety significance (Green) and an associated non-cited violation (NCV) of 10 CFR 20.1501 was identified on July 14, 2014, for the failure to conduct surveys that may be necessary for the licensee to comply with the regulations in Part 20 of the Code of Federal Regulations (CFR). The inspectors determined that the licensee did not perform adequate surveys to assure compliance with 10 CFR 20.1802, which requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage. Specifically, on July 14, licensee surveys of the service air compressor lube oil coolers were not adequate to control licensed material from being unconditionally released from the site. The inspectors determined that this was a performance deficiency, the cause of which was reasonably within the licensee's ability to foresee and correct, and should have been prevented. This finding was not subject to traditional enforcement since the incident did not result in a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and was not willful. This issue was entered into the licensee's corrective action program as Condition Report (CR) 2014-11729. Licensee corrective actions included intrusive management actions to address individual performance weaknesses, radioactive material control practices, and sharing lessons learned with applicable station staff.

The performance deficiency was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute for program and process and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain. The finding was determined to be of very low safety significance because the finding was not a transportation issue, did not involve radioactive effluents, and did not involve the Radiological Environmental Monitoring Program. This

finding has a cross-cutting aspect in the area of human performance, challenge the unknown, for the radiation protection technician's failure to stop when faced with uncertain conditions and to ensure that risks are evaluated and managed before proceeding

Inspection Report# : [2014004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : November 26, 2014

Perry 1

4Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Unevaluated Preconditioning of Emergency Service Water Motor Operated Valves and Check Valves prior to conducting As-Found Inservice Surveillance Testing

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's unevaluated preconditioning, on October 15, 2014, of emergency service water (ESW) pump discharge motor-operated valves and check valves prior to performing as-found inservice testing (IST). This finding was entered into the licensee's corrective action program for resolution as Condition Report 2014-15759.

The unevaluated preconditioning was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated preconditioning of valves could mask their actual as-found conditions and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event. The inspectors determined that the finding was of very low safety significance because the finding was confirmed not to result in a loss of operability or functionality of the ESW system. The finding has a cross-cutting aspect in the area of human performance associated with the work management component because the licensee did not implement a process of planning, controlling, and executing work activities to prevent preconditioning of valves prior to testing (H.5).

Inspection Report# : [2014005 \(pdf\)](#)

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure for Performing an Acceptable Technical Specification Required Channel Check

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for redundant reactivity control system (RRCS) channel checks. The licensee entered the issue into the corrective action program as Condition Report 2014-17635 and took immediate actions for a missed surveillance in accordance with TS.

The inspectors determined that the failure to establish and maintain a correct surveillance procedure required by TS

5.4.1.a. was a performance deficiency and resulted in the licensee's failure to perform a channel check that meets the TS definition of a channel check. The performance deficiency was determined to be more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the channel check surveillance procedure did not compare the channel indication and status to other indications or status derived from available independent instrument channels measuring the same parameter. The inspectors determined that the finding was of very low safety significance because the finding (1) did not affect a reactor protection system trip signal and the function of other redundant trips or diverse methods of reactor shutdown, (2) did not involve control manipulations that unintentionally added positive reactivity, and (3) did not result in a mismanagement of reactivity by operators. No cross-cutting aspect is assigned as this performance deficiency first occurred in 1986 and is not indicative of current licensee performance.

Inspection Report# : [2014005 \(pdf\)](#)

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Licensee Procedure to Properly Screen and Evaluate Temporary Changes to Plant Facilities / Structures, Systems, or Components

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to implement the requirements of Nuclear Operating Business Practice

(NOBP)-LP-4003A, "FENOC 10 CFR 50.59 User Guidelines." This finding was entered into the licensee's corrective action program for resolution as Condition Report

2015-00284.

The inspectors determined that the failure to complete a Regulatory Applicability Determination (RAD) specified in NOBP-LP-4003A was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function and/or system; (3) did not result in the loss of one or more trains of TS equipment; and (4) does not represent the loss of a non-TS train of equipment.

The finding has a

cross-cutting aspect in the area of human performance associated with the change management component, in that leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority (H.3).

Inspection Report# : [2014005 \(pdf\)](#)

Significance: Jun 30, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Promptly Correct a Condition Adverse to Quality on Division 2 EDG

A self-revealed finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR, Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified on May 7, 2014, for the failure to correct a condition adverse to quality. Specifically, the licensee failed to correct a lube oil leak, identified by operations personnel on April 12, 2014, during the monthly run of the Division 2 Emergency Diesel Generator (EDG). As discussed in

Condition Report (CR) 2014-06755, the leak was from a Swagelok fitting on the turbocharger supply line and at a rate of less than an ounce per hour. The CR was closed to a work order to complete repairs. On May 7, the next scheduled surveillance run of the Division 2 EDG occurred. The leak had not been repaired and, during the run, became progressively worse resulting in an unplanned (emergency) shutdown of the diesel and the diesel being declared inoperable. The leak was quantified as approximately a gallon per hour at the time of the shutdown (CR 2014-08487). The line was repaired and the diesel was returned to operable status on May 8. The licensee promptly evaluated the other EDGs and determined that a common cause condition did not exist. The failure was caused by fatigue cracking of the Swagelok fitting due to misalignment during installation. A root cause evaluation was conducted by the licensee.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because there was no design deficiency, no actual loss of safety function, and no single train loss of safety function for greater than the Technical Specification (TS)-allowed outage time. This finding has a cross-cutting aspect in the area of problem identification and resolution evaluation, for the failure to thoroughly evaluate the issue and ensure that the resolution addressed the cause and extent of condition when identified in April 2014.

Inspection Report# : [2014003 \(pdf\)](#)

G

Significance: Mar 31, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure for Extreme Cold Weather

A self-revealed finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1.a was identified for the licensee's failure to maintain adequate procedures to respond to acts of nature as required by Regulatory Guide 1.33, "Quality Assurance Program Requirements." Specifically, the cold weather procedure did not adequately direct equipment walkdowns and subsequent actions to protect equipment important to safety from severe weather risks, directly resulting in freezing and breaking of fire protection piping in Unit 2 turbine power complex, elevation 593' level. The piping provides fire protection for Unit 2 startup transformer's deluge system and the three Unit 2 inter-bus transformer deluge systems. The Unit 2 startup transformer is an integral part of one of the two qualified circuits specified in Technical Specification 3.8.1 between the offsite electrical transmission network and the onsite 4160-volt safety-related electrical system. Corrective actions included immediate posting of compensatory actions and warming of the space to prevent further damage to the system until repairs were completed.

The finding was determined to be more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the procedure did not direct the licensee to take proactive steps to limit the likelihood of extreme cold weather freezing and breaking the fire protection piping located on the Unit 2 turbine power complex elevation 593' level. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.2, "Fixed Fire Protection Systems," to the finding and by answering "yes" in Step 1.3 A, "Is the reactor able to reach and maintain safe shutdown (either hot or cold) condition?" the inspectors determined that the finding was of very low safety significance. The finding was determined to have a cross-cutting aspect in the area of human performance, avoid complacency, where individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee did not identify that the fire protection deluge valves and piping in the Unit 2 turbine power complex were subject to freezing, even though extreme cold conditions had existed in prior weeks, allowing the licensee ample time for additional walkdowns to ensure that the plant was ready for the extreme cold weather event the first week of January 2014 (H.12).

Inspection Report# : [2014002 \(pdf\)](#)

G

Significance: Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Required 3-Hour Fire Barriers (Seals) Were In-Place

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Perry Operating License Condition 2.C(6) for failure to establish a required 3-hour fire barrier as required by design. Specifically, on March 13, 2014, the inspectors identified four incomplete fire barrier seals in ceiling-level penetrations between the Division 1 and Division 2 battery rooms and the adjoining direct current (DC) switchgear rooms, and on March 14 identified the lack of a fire barrier seal in a ceiling-level penetration between the remote shutdown panel room and an adjoining alternating current (AC) switchgear room. The licensee implemented compensatory measures that included hourly fire watches and entered the issues into the corrective action program.

The finding was determined to be more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the lack of a barrier caused the required 3-hour barrier required by design to be non-functional. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.3, "Fire Confinement," to the finding, which was determined to be of very low safety significance. For the battery room seals, the inspectors identified a cross-cutting aspect in the area of human performance, work management, where the organization implements a process for planning and controlling, and executing work activities such that nuclear safety is the overriding priority (H.5). Specifically, the licensee did not follow its procedures when the fire seal material was formed in the workshop and then installed in the openings instead of being formed in situ as required by the licensee's procedures (H.5). The inspectors determined there was no cross-cutting aspect associated with the lack of a fire seal in the remote shutdown panel room because it did not reflect current performance.

Inspection Report# : [2014002 \(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

G

Significance: Sep 30, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RADIOACTIVE MATERIAL FOUND OFF-SITE AT A SCRAP METAL VENDOR FACILITY

A self-revealed finding of very low safety significance (Green) and an associated non-cited violation (NCV) of 10 CFR 20.1501 was identified on July 14, 2014, for the failure to conduct surveys that may be necessary for the licensee to comply with the regulations in Part 20 of the Code of Federal Regulations (CFR). The inspectors determined that the licensee did not perform adequate surveys to assure compliance with 10 CFR 20.1802, which requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage. Specifically, on July 14, licensee surveys of the service air compressor lube oil coolers were not adequate to control licensed material from being unconditionally released from the site. The inspectors determined that this was a performance deficiency, the cause of which was reasonably within the licensee's ability to foresee and correct, and should have been prevented. This finding was not subject to traditional enforcement since the incident did not result in a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and was not willful. This issue was entered into the licensee's corrective action program as Condition Report (CR) 2014-11729. Licensee corrective actions included intrusive management actions to address individual performance weaknesses, radioactive material control practices, and sharing lessons learned with applicable station staff.

The performance deficiency was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute for program and process and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain. The finding was determined to be of very low safety significance because the finding was not a transportation issue, did not involve radioactive effluents, and did not involve the Radiological Environmental Monitoring Program. This finding has a cross-cutting aspect in the area of human performance, challenge the unknown, for the radiation protection technician's failure to stop when faced with uncertain conditions and to ensure that risks are evaluated and managed before proceeding

Inspection Report# : [2014004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : February 26, 2015

Perry 1

1Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Unevaluated Preconditioning of Emergency Service Water Motor Operated Valves and Check Valves prior to conducting As-Found Inservice Surveillance Testing

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's unevaluated preconditioning, on October 15, 2014, of emergency service water (ESW) pump discharge motor-operated valves and check valves prior to performing as-found inservice testing (IST). This finding was entered into the licensee's corrective action program for resolution as Condition Report 2014-15759.

The unevaluated preconditioning was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated preconditioning of valves could mask their actual as-found conditions and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event. The inspectors determined that the finding was of very low safety significance because the finding was confirmed not to result in a loss of operability or functionality of the ESW system. The finding has a cross-cutting aspect in the area of human performance associated with the work management component because the licensee did not implement a process of planning, controlling, and executing work activities to prevent preconditioning of valves prior to testing (H.5).

Inspection Report# : [2014005 \(pdf\)](#)

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Procedure for Performing an Acceptable Technical Specification Required Channel Check

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for redundant reactivity control system (RRCS) channel checks. The licensee entered the issue into the corrective action program as Condition Report 2014-17635 and took immediate actions for a missed surveillance in accordance with TS.

The inspectors determined that the failure to establish and maintain a correct surveillance procedure required by TS

5.4.1.a. was a performance deficiency and resulted in the licensee's failure to perform a channel check that meets the TS definition of a channel check. The performance deficiency was determined to be more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the channel check surveillance procedure did not compare the channel indication and status to other indications or status derived from available independent instrument channels measuring the same parameter. The inspectors determined that the finding was of very low safety significance because the finding (1) did not affect a reactor protection system trip signal and the function of other redundant trips or diverse methods of reactor shutdown, (2) did not involve control manipulations that unintentionally added positive reactivity, and (3) did not result in a mismanagement of reactivity by operators. No cross-cutting aspect is assigned as this performance deficiency first occurred in 1986 and is not indicative of current licensee performance.

Inspection Report# : [2014005 \(pdf\)](#)

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow Licensee Procedure to Properly Screen and Evaluate Temporary Changes to Plant Facilities / Structures, Systems, or Components

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to implement the requirements of Nuclear Operating Business Practice (NOBP)-LP-4003A, "FENOC 10 CFR 50.59 User Guidelines." This finding was entered into the licensee's corrective action program for resolution as Condition Report 2015-00284.

The inspectors determined that the failure to complete a Regulatory Applicability Determination (RAD) specified in NOBP-LP-4003A was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function and/or system; (3) did not result in the loss of one or more trains of TS equipment; and (4) does not represent the loss of a non-TS train of equipment.

The finding has a cross-cutting aspect in the area of human performance associated with the change management component, in that leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority (H.3).

Inspection Report# : [2014005 \(pdf\)](#)

Significance: Jun 30, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Promptly Correct a Condition Adverse to Quality on Division 2 EDG

A self-revealed finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR, Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified on May 7, 2014, for the failure to correct a condition adverse to quality. Specifically, the licensee failed to correct a lube oil leak, identified by operations personnel on April 12, 2014, during the monthly run of the Division 2 Emergency Diesel Generator (EDG). As discussed in

Condition Report (CR) 2014-06755, the leak was from a Swagelok fitting on the turbocharger supply line and at a rate of less than an ounce per hour. The CR was closed to a work order to complete repairs. On May 7, the next scheduled surveillance run of the Division 2 EDG occurred. The leak had not been repaired and, during the run, became progressively worse resulting in an unplanned (emergency) shutdown of the diesel and the diesel being declared inoperable. The leak was quantified as approximately a gallon per hour at the time of the shutdown (CR 2014-08487). The line was repaired and the diesel was returned to operable status on May 8. The licensee promptly evaluated the other EDGs and determined that a common cause condition did not exist. The failure was caused by fatigue cracking of the Swagelok fitting due to misalignment during installation. A root cause evaluation was conducted by the licensee.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because there was no design deficiency, no actual loss of safety function, and no single train loss of safety function for greater than the Technical Specification (TS)-allowed outage time. This finding has a cross-cutting aspect in the area of problem identification and resolution evaluation, for the failure to thoroughly evaluate the issue and ensure that the resolution addressed the cause and extent of condition when identified in April 2014.

Inspection Report# : [2014003 \(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

G

Significance: Sep 30, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

RADIOACTIVE MATERIAL FOUND OFF-SITE AT A SCRAP METAL VENDOR FACILITY

A self-revealed finding of very low safety significance (Green) and an associated non-cited violation (NCV) of 10 CFR 20.1501 was identified on July 14, 2014, for the failure to conduct surveys that may be necessary for the licensee to comply with the regulations in Part 20 of the Code of Federal Regulations (CFR). The inspectors determined that the licensee did not perform adequate surveys to assure compliance with 10 CFR 20.1802, which requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage. Specifically, on July 14, licensee surveys of the service air compressor lube oil coolers were not adequate to control licensed material from being unconditionally released from the site. The inspectors determined that this was a performance deficiency, the cause of which was reasonably within the licensee's ability to foresee and

correct, and should have been prevented. This finding was not subject to traditional enforcement since the incident did not result in a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and was not willful. This issue was entered into the licensee's corrective action program as Condition Report (CR) 2014-11729. Licensee corrective actions included intrusive management actions to address individual performance weaknesses, radioactive material control practices, and sharing lessons learned with applicable station staff.

The performance deficiency was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute for program and process and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain. The finding was determined to be of very low safety significance because the finding was not a transportation issue, did not involve radioactive effluents, and did not involve the Radiological Environmental Monitoring Program. This finding has a cross-cutting aspect in the area of human performance, challenge the unknown, for the radiation protection technician's failure to stop when faced with uncertain conditions and to ensure that risks are evaluated and managed before proceeding

Inspection Report# : [2014004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : June 16, 2015

Perry 1 2Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

FAILURE TO INITIATE A TRANSIENT COMBUSTIBLE PERMIT

Inspection Report# : [2015001 \(pdf\)](#)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

LIQUID PENETRANT TESTING PROCEDURE WAS NOT QUALIFIED FOR ITS FULL APPLICABILITY RANGE

Inspection Report# : [2015001 \(pdf\)](#)

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Unevaluated Preconditioning of Emergency Service Water Motor Operated Valves and Check Valves prior to conducting As-Found Inservice Surveillance Testing

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's unevaluated preconditioning, on October 15, 2014, of emergency service water (ESW) pump discharge motor-operated valves and check valves prior to performing as-found inservice testing (IST). This finding was entered into the licensee's corrective action program for resolution as Condition Report 2014-15759.

The unevaluated preconditioning was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated preconditioning of valves could mask their actual as-found conditions and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event. The inspectors determined that the finding was of very low safety significance because the finding was confirmed not to result in a loss of operability or functionality of the ESW system. The finding has a cross-cutting aspect in the area of human performance associated with the work management component because the licensee did

not implement a process of planning, controlling, and executing work activities to prevent preconditioning of valves prior to testing (H.5).

Inspection Report# : [2014005 \(pdf\)](#)

G

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Procedure for Performing an Acceptable Technical Specification Required Channel Check

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for redundant reactivity control system (RRCS) channel checks. The licensee entered the issue into the corrective action program as Condition Report 2014-17635 and took immediate actions for a missed surveillance in accordance with TS.

The inspectors determined that the failure to establish and maintain a correct surveillance procedure required by TS 5.4.1.a. was a performance deficiency and resulted in the licensee's failure to perform a channel check that meets the TS definition of a channel check. The performance deficiency was determined to be more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the channel check surveillance procedure did not compare the channel indication and status to other indications or status derived from available independent instrument channels measuring the same parameter. The inspectors determined that the finding was of very low safety significance because the finding (1) did not affect a reactor protection system trip signal and the function of other redundant trips or diverse methods of reactor shutdown, (2) did not involve control manipulations that unintentionally added positive reactivity, and (3) did not result in a mismanagement of reactivity by operators. No cross-cutting aspect is assigned as this performance deficiency first occurred in 1986 and is not indicative of current licensee performance.

Inspection Report# : [2014005 \(pdf\)](#)

G

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow Licensee Procedure to Properly Screen and Evaluate Temporary Changes to Plant Facilities / Structures, Systems, or Components

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a., "Procedures," for the licensee's failure to implement the requirements of Nuclear Operating Business Practice

(NOBP)-LP-4003A, "FENOC 10 CFR 50.59 User Guidelines." This finding was entered into the licensee's corrective action program for resolution as Condition Report

2015-00284.

The inspectors determined that the failure to complete a Regulatory Applicability Determination (RAD) specified in NOBP-LP-4003A was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of

operability or functionality; (2) did not represent an actual loss of safety function and/or system; (3) did not result in the loss of one or more trains of TS equipment; and (4) does not represent the loss of a non-TS train of equipment. The finding has a

cross-cutting aspect in the area of human performance associated with the change management component, in that leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority (H.3).

Inspection Report# : [2014005 \(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

G

Significance: Sep 30, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

RADIOACTIVE MATERIAL FOUND OFF-SITE AT A SCRAP METAL VENDOR FACILITY

A self-revealed finding of very low safety significance (Green) and an associated non-cited violation (NCV) of 10 CFR 20.1501 was identified on July 14, 2014, for the failure to conduct surveys that may be necessary for the licensee to comply with the regulations in Part 20 of the Code of Federal Regulations (CFR). The inspectors determined that the licensee did not perform adequate surveys to assure compliance with 10 CFR 20.1802, which requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage. Specifically, on July 14, licensee surveys of the service air compressor lube oil coolers were not adequate to control licensed material from being unconditionally released from the site. The inspectors determined that this was a performance deficiency, the cause of which was reasonably within the licensee's ability to foresee and correct, and should have been prevented. This finding was not subject to traditional enforcement since the incident did not result in a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and was not willful. This issue was entered into the licensee's corrective action program as Condition Report (CR) 2014-11729. Licensee corrective actions included intrusive management actions to address individual performance weaknesses, radioactive material control practices, and sharing lessons learned with applicable station staff.

The performance deficiency was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute for program and process and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain. The finding was determined to be of very low safety significance because the finding was not a transportation issue, did not involve radioactive effluents, and did not involve the Radiological Environmental Monitoring Program. This finding has a cross-cutting aspect in the area of human performance, challenge the unknown, for the radiation

protection technician's failure to stop when faced with uncertain conditions and to ensure that risks are evaluated and managed before proceeding

Inspection Report# : [2014004 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 07, 2015

Perry 1

3Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Operating Procedure for Diesel Generator Building Ventilation System

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure as of July 8, 2015, to establish and maintain an adequate procedure for operation of the Diesel Generator Building Ventilation System (DGBVS). Specifically, the DGBVS operating procedure did not ensure that diesel room temperature would remain below limits during testing.

The failure to establish and maintain an adequate procedure was a performance deficiency and resulted in the Division 2 Diesel Generator room temperatures exceeding specified limits. The performance deficiency was more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance because the finding is a deficiency affecting the design or qualification of a mitigating structure, system, and component (SSC) that maintained its operability. This finding has a cross-cutting aspect in the area of human performance, design margins, because the licensee did not incorporate the degree of redundancy specified in the Updated Safety Analysis Report for DGBVS into the applicable operating procedures (H.6).

Inspection Report# : [2015003 \(pdf\)](#)

Significance:  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Properly Implement Steps Outlined in a Technical Specification Surveillance Procedure

A finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on August 5, 2015, when an unexpected isolation of the reactor core isolation cooling (RCIC) system occurred as a result of the licensee's failure to properly implement the steps outlined in TS Surveillance Procedure, SVI-E31-T5395B, "RCIC Steam Line Flow High Channel Functional for 1E31-N684B." Specifically, during performance of the surveillance, several steps were marked as not applicable that were applicable to prevent the isolation of the RCIC system. As a result, the licensee failed to lift leads as required by the procedure and the RCIC steam supply inboard isolation valve then closed when the isolation trip signal was applied during the test. The licensee took immediate actions to restore system operability and availability and conducted a human performance event response investigation. A standing order for both Operations and Instrumentation and Controls personnel was initiated addressing interim actions for control room surveillance performance and to reinforce maintenance

fundamentals and human performance behaviors.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-Technical Specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for failing to recognize and plan for the possibility of mistakes, and for failure to implement appropriate error reduction tools, such as proper self-checks and peer checks, which resulted in an isolation of the RCIC system (H.12).

Inspection Report# : [2015003 \(pdf\)](#)

Significance: Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

FAILURE TO INITIATE A TRANSIENT COMBUSTIBLE PERMIT

The inspectors identified a finding of very low safety significance and associated NCV of Perry Operating License Condition 2.C(6) for failure to follow the site Fire Protection Program. Specifically, a large quantity of material from the previous space utilized as the Diesel Maintenance Shop had been placed in the Diesel Generator (DG) Hallway to allow reconstruction of the space as a storage area for post-Fukushima equipment and awaiting completion of a new maintenance shop location. However, as of the inspectors' observations on February 3, 2015, the licensee failed to evaluate the impact of this large quantity of combustibles or to issue a transient combustible permit as required by Perry Administrative Procedure (PAP) 1910, Fire Control Program. This finding was entered into the licensee's corrective action program for resolution as Condition Report 2015-01280 and immediate corrective action was taken to evaluate and issue a transient combustible permit for the DG Hallway.

The failure to comply with the site Fire Protection Program was determined to be more than minor performance deficiency because it was associated with the protection against external factors (i.e., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to evaluate the fire impact of the stored material and process a permit for the excess combustible material stored in the DG Hallway fire area prevented the licensee from initiating compensatory fire watch actions, and additionally did not address the potential issue of restricting the availability of fire protection equipment in the area. The inspectors determined that the finding was of very low safety significance because the impact of a fire would have been limited to no more than one train of equipment important to safety. The finding has a cross-cutting aspect in the area of human performance, work management, in that the licensee work process did not provide for management of the risk commensurate to the work and the need for coordination with different groups or job activities, specifically fire safety personnel (H.5).

Inspection Report# : [2015001 \(pdf\)](#)

Significance: Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

LIQUID PENETRANT TESTING PROCEDURE WAS NOT QUALIFIED FOR ITS FULL APPLICABILITY RANGE

The inspectors identified a finding of very low safety significance and associated NCV of Title 10 of the Code of

Federal Regulations (CFR) Part 50, Appendix B, Criterion IX, "Control of Special Processes," for the licensee's failure to properly qualify a non-destructive testing procedure in accordance with applicable codes. Specifically, a liquid penetrant testing procedure was not qualified for its full applicability temperature range in accordance with American Society for Mechanical Engineers (ASME) Code, Section V, "Non-Destructive Examination." This finding was entered into the licensee's corrective action program as Condition Report 2015-03175.

The failure to qualify a liquid penetrant testing procedure in accordance with ASME Section V was determined to be a more than minor performance deficiency because if left uncorrected, it has the potential to lead to a more significant safety concern. Specifically, since the liquid penetrant testing procedure was not qualified for its full applicability temperature range, liquid penetrant examinations would not be assured to detect flaws in the unqualified temperature range and as a consequence, the potential would exist for a rejectable flaw to go undetected, unknowingly impacting the operability of the inspected system. The inspectors determined the finding was of very low safety significance because it did not result in the loss of operability or functionality for any mitigating systems; thus, the inspectors answered "No" to the screening questions. The licensee completed a review of liquid penetrant examination records, and did not find an example where the procedure was implemented in the unqualified temperature range. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. Specifically, the inadequate qualifications were performed more than 3 years ago.

Inspection Report# : [2015001 \(pdf\)](#)

G

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Unevaluated Preconditioning of Emergency Service Water Motor Operated Valves and Check Valves prior to conducting As-Found Inservice Surveillance Testing

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's unevaluated preconditioning, on October 15, 2014, of emergency service water (ESW) pump discharge motor-operated valves and check valves prior to performing as-found inservice testing (IST). This finding was entered into the licensee's corrective action program for resolution as Condition Report 2014-15759.

The unevaluated preconditioning was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated preconditioning of valves could mask their actual as-found conditions and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event. The inspectors determined that the finding was of very low safety significance because the finding was confirmed not to result in a loss of operability or functionality of the ESW system. The finding has a cross-cutting aspect in the area of human performance associated with the work management component because the licensee did not implement a process of planning, controlling, and executing work activities to prevent preconditioning of valves prior to testing (H.5).

Inspection Report# : [2014005 \(pdf\)](#)

G

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Procedure for Performing an Acceptable Technical Specification Required Channel Check

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for redundant reactivity control system (RRCS) channel checks. The licensee entered the issue into the corrective action program as Condition Report 2014-17635 and took immediate actions for a missed surveillance in accordance with TS.

The inspectors determined that the failure to establish and maintain a correct surveillance procedure required by TS 5.4.1.a. was a performance deficiency and resulted in the licensee's failure to perform a channel check that meets the TS definition of a channel check. The performance deficiency was determined to be more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the channel check surveillance procedure did not compare the channel indication and status to other indications or status derived from available independent instrument channels measuring the same parameter. The inspectors determined that the finding was of very low safety significance because the finding (1) did not affect a reactor protection system trip signal and the function of other redundant trips or diverse methods of reactor shutdown, (2) did not involve control manipulations that unintentionally added positive reactivity, and (3) did not result in a mismanagement of reactivity by operators. No cross-cutting aspect is assigned as this performance deficiency first occurred in 1986 and is not indicative of current licensee performance.

Inspection Report# : [2014005 \(pdf\)](#)

G

Significance: Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow Licensee Procedure to Properly Screen and Evaluate Temporary Changes to Plant Facilities / Structures, Systems, or Components

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a., "Procedures," for the licensee's failure to implement the requirements of Nuclear Operating Business Practice (NOBP)-LP-4003A, "FENOC 10 CFR 50.59 User Guidelines." This finding was entered into the licensee's corrective action program for resolution as Condition Report 2015-00284.

The inspectors determined that the failure to complete a Regulatory Applicability Determination (RAD) specified in NOBP-LP-4003A was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function and/or system; (3) did not result in the loss of one or more trains of TS equipment; and (4) does not represent the loss of a non-TS train of equipment.

The finding has a

cross-cutting aspect in the area of human performance associated with the change management component, in that leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority (H.3).

Inspection Report# : [2014005 \(pdf\)](#)

Barrier Integrity

G

Significance: Aug 07, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Adequately Evaluate Damaged CRD Flange

The inspectors identified a finding of very low safety significance and an associated NCV of 10CFR50, Appendix B, Criterion III, "Design Control," for the licensee's failure to adequately evaluate a non-conforming safety-related component prior to returning it to service. Specifically, the inspectors identified that the licensee had misapplied a generic vendor evaluation on June 18, 2013, to evaluate the surface damage on control rod drive (CRD) 30-15 and therefore, failed to adequately evaluate the "Use As-Is" disposition on the damage to the flange surface prior to returning it to service. As part of the licensee's immediate corrective actions, the licensee performed a prompt operability determination of CRD 30-15 flange which adequately documented the basis for acceptance of "Use As-Is" for the flange.

Inspection Report# : [2015007 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : December 15, 2015

Perry 1

4Q/2015 Plant Inspection Findings

Initiating Events



Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure that Systems, Structures, and Components Necessary to Achieve and Maintain Hot Shutdown Conditions were Free of Fire Damage without Repair Actions (Section 1R05.1b)

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specifications (TS) Section 5.4.1.a for the licensee's failure to perform fire watches in two fire areas for a non-functional fire barrier. Specifically, the licensee failed to perform fire watches as required by Section 16.D(1)a.(1) of Attachment 3 to procedure PAP-1910, "Fire Protection Program." The licensee entered the issue into their Corrective Action Program (CAP), and added the two fire areas to the fire watch list.

The inspectors determined that the performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, by failing to perform fire watches the licensee may not have been able to identify transient combustible materials that could have impacted the unprotected circuits associated with this deficiency in the event of a fire. This finding was of very low safety significance because it only impacted one train of equipment important to safety. This finding has a cross-cutting aspect in the area of Human Performance, Documentation because the licensee did not create and maintain complete, accurate, and up-to-date documentation. Specifically, when the licensee developed the fire watch list they did not include all impacted fire zones as listed in the initial impairment. [H.7]

Inspection Report# : [2015008 \(pdf\)](#)

Mitigating Systems



Significance: Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Required 3 Hour Fire Barriers Were In-Place

The inspectors identified a finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), Fire Protection, for the licensee's failure to maintain a three-hour fire barriers as required by the Updated Safety Analysis Report (USAR). Specifically, the inspectors identified a through-wall hole, approximately two feet wide and two feet tall in the common wall between the Unit 2, Division 1 and Division 2, direct current (DC) switchgear rooms and another hole, approximately one foot wide and one foot tall between the Unit 2, Division 2 DC switchgear room and the outside hallway.

The two through-wall holes were determined to be a performance deficiency associated with compliance to the licensee's fire protection program because the walls are described in the USAR as three-hour fire barriers for the rooms in question. The performance deficiency was more than minor; and thus a finding, because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating

events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance through analysis of the issue as a fire confinement problem and the fact that the reactor would still be able to reach and maintain safe shutdown despite the deficiency. The inspectors identified no cross-cutting issues associated with this finding because the condition has existed since at least July 2011, and therefore, is not indicative of current plant performance.

Inspection Report# : [2015004 \(pdf\)](#)

G

Significance: Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement the System Operating Instruction to Restore RHR “B” to Service

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1, “Procedures,” was self-revealed on November 4, 2015 when operators failed to follow procedures and caused an increase in level of the suppression pool. Specifically, during the process of recovering the “B” RHR system in accordance with system operating instruction SOI-E12, “Residual Heat Removal System,” the operators failed to follow an “If/Then” statement and did not isolate the alternate keep-fill system prior to starting the RHR pump to sweep voids into the suppression pool. This resulted in the condensate transfer system remaining lined up to “B” RHR train and transfer of an estimated 15,000 gallons of condensate water to the suppression pool. The resultant increasing suppression pool level caused a suction swaps for both HPCS and RCIC to the suppression pool. The licensee took immediate actions to suspend the evolution, restored the suppression pool level to the middle of the acceptable band, and restored the suction sources for HPCS and RCIC to the condensate storage tank. A human performance event response investigation was conducted and the operating crew was remediated. The issue was entered into the licensee’s CAP as

CR 2015-15089.

The operator’s failure to follow the procedure was a performance deficiency that was determined to be more than minor; and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee’s Maintenance Rule Program for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, problem resolution, because the licensee had not solved a similar issue in third quarter of 2015 that involved the same contributing factors of poor maintenance supervision, inadequate pre-job briefs and poor shift management oversight. [P.3]

Inspection Report# : [2015004 \(pdf\)](#)

G

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Inspect Penetration Seals Within the Required Time Frequency (Section 1R05.2b)

The inspectors identified a finding of very low safety significance (Green), and associated NCV of license condition 2.C(6) for the licensee’s failure to ensure that systems, structures, and components necessary to achieve and maintain hot shutdown conditions were free of fire damage. Specifically, the licensee did not ensure that circuits associated with the emergency closed cooling (ECC) heat exchanger ‘A’ temperature control valve 1P42-F665A were free of fire damage for a fire in the control room and instead relied on lifting leads and replacing fuses to take manual control of the valve. The licensee entered the issue into their CAP, and credited the existing repair activities in the procedure. The inspectors determined that the performance deficiency was more than minor because a fire in the control room

could result in the licensee losing the ability to remotely control the ECC heat exchanger ‘A’ temperature control valve and needing to take manual control of the valve. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Adequate Guidance to Override Spurious CO2 Initiation Signal in the Diesel Generator Rooms (Section 1R05.6b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of license condition 2.C(6) for the licensee’s failure to adequately implement and maintain surveillance procedures and work processes associated with fire barrier and penetration seal inspections. Specifically, the licensee failed to perform fire barrier penetration seal inspections for 42 penetration seals at least once per 15 years (plus an additional 25 percent grace period) as required by the Fire Protection Program. The licensee entered the issue into their CAP, and will inspect the accessible portions of the barriers and will perform a full inspection at the next available opportunity. The inspectors determined that the performance deficiency was more than minor because the licensee’s failure to inspect the fire barrier penetrations could result in not identifying degraded seals which could affect their ability to prevent a fire from spreading from one fire area to another. The finding was of very low safety significance because the failure to inspect a portion of fire barrier penetration seals did not impact the plant’s ability to reach and maintain safe shutdown. The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee improperly closed a notification to track the inspection of fire barrier penetrations without creating a work order. [H.5]

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Fire Watches (Section 1R05.10b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of TS Section 5.4.1.a for the licensee’s failure to have adequate procedural guidance in their fire response procedure. Specifically, Procedure ONI-P54, “Fire,” Revision 19 did not list all the fire areas where a potential fire induced spurious carbon dioxide (CO2) initiation in the emergency diesel generator (EDG) room could occur. The licensee entered this issue into their CAP, and established hourly fire watches for the affected areas.

The inspectors determined that the performance deficiency was more than minor because a fire in any of the affected fire zones could damage circuits for the nonsafety related CO2 systems for the EDG rooms causing a potential spurious CO2 initiation in the diesel rooms and affecting the operation of the ventilation fans and dampers in the diesel rooms. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance.

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Operating Procedure for Diesel Generator Building Ventilation System

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure as of July 8, 2015, to establish and maintain an adequate procedure for operation of the Diesel Generator Building Ventilation System (DGBVS). Specifically, the DGBVS operating procedure did not ensure that diesel room temperature would remain below limits during testing.

The failure to establish and maintain an adequate procedure was a performance deficiency and resulted in the Division 2 Diesel Generator room temperatures exceeding specified limits. The performance deficiency was more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance because the finding is a deficiency affecting the design or qualification of a mitigating structure, system, and component (SSC) that maintained its operability. This finding has a cross-cutting aspect in the area of human performance, design margins, because the licensee did not incorporate the degree of redundancy specified in the Updated Safety Analysis Report for DGBVS into the applicable operating procedures (H.6).

Inspection Report# : [2015003 \(pdf\)](#)

G

Significance: Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Properly Implement Steps Outlined in a Technical Specification Surveillance Procedure

A finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on August 5, 2015, when an unexpected isolation of the reactor core isolation cooling (RCIC) system occurred as a result of the licensee's failure to properly implement the steps outlined in TS Surveillance Procedure, SVI-E31-T5395B, "RCIC Steam Line Flow High Channel Functional for 1E31-N684B." Specifically, during performance of the surveillance, several steps were marked as not applicable that were applicable to prevent the isolation of the RCIC system. As a result, the licensee failed to lift leads as required by the procedure and the RCIC steam supply inboard isolation valve then closed when the isolation trip signal was applied during the test. The licensee took immediate actions to restore system operability and availability and conducted a human performance event response investigation. A standing order for both Operations and Instrumentation and Controls personnel was initiated addressing interim actions for control room surveillance performance and to reinforce maintenance fundamentals and human performance behaviors.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-Technical Specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for failing to recognize and plan for the possibility of mistakes, and for failure to implement appropriate error reduction tools, such as proper self-checks and peer checks, which resulted in an isolation of the RCIC system (H.12).

Inspection Report# : [2015003 \(pdf\)](#)

G

Significance: Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

FAILURE TO INITIATE A TRANSIENT COMBUSTIBLE PERMIT

The inspectors identified a finding of very low safety significance and associated NCV of Perry Operating License Condition 2.C(6) for failure to follow the site Fire Protection Program. Specifically, a large quantity of material from the previous space utilized as the Diesel Maintenance Shop had been placed in the Diesel Generator (DG) Hallway to allow reconstruction of the space as a storage area for post-Fukushima equipment and awaiting completion of a new maintenance shop location. However, as of the inspectors' observations on February 3, 2015, the licensee failed to evaluate the impact of this large quantity of combustibles or to issue a transient combustible permit as required by Perry Administrative Procedure (PAP) 1910, Fire Control Program. This finding was entered into the licensee's corrective action program for resolution as Condition Report 2015-01280 and immediate corrective action was taken to evaluate and issue a transient combustible permit for the DG Hallway.

The failure to comply with the site Fire Protection Program was determined to be more than minor performance deficiency because it was associated with the protection against external factors (i.e., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to evaluate the fire impact of the stored material and process a permit for the excess combustible material stored in the DG Hallway fire area prevented the licensee from initiating compensatory fire watch actions, and additionally did not address the potential issue of restricting the availability of fire protection equipment in the area. The inspectors determined that the finding was of very low safety significance because the impact of a fire would have been limited to no more than one train of equipment important to safety. The finding has a cross-cutting aspect in the area of human performance, work management, in that the licensee work process did not provide for management of the risk commensurate to the work and the need for coordination with different groups or job activities, specifically fire safety personnel (H.5).

Inspection Report# : [2015001 \(pdf\)](#)

G

Significance: Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

LIQUID PENETRANT TESTING PROCEDURE WAS NOT QUALIFIED FOR ITS FULL APPLICABILITY RANGE

The inspectors identified a finding of very low safety significance and associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion IX, "Control of Special Processes," for the licensee's failure to properly qualify a non-destructive testing procedure in accordance with applicable codes. Specifically, a liquid penetrant testing procedure was not qualified for its full applicability temperature range in accordance with American Society for Mechanical Engineers (ASME) Code, Section V, "Non-Destructive Examination." This finding was entered into the licensee's corrective action program as Condition Report 2015-03175.

The failure to qualify a liquid penetrant testing procedure in accordance with ASME Section V was determined to be a more than minor performance deficiency because if left uncorrected, it has the potential to lead to a more significant safety concern. Specifically, since the liquid penetrant testing procedure was not qualified for its full applicability temperature range, liquid penetrant examinations would not be assured to detect flaws in the unqualified temperature range and as a consequence, the potential would exist for a rejectable flaw to go undetected, unknowingly impacting the operability of the inspected system. The inspectors determined the finding was of very low safety significance because it did not result in the loss of operability or functionality for any mitigating systems; thus, the inspectors answered "No" to the screening questions. The licensee completed a review of liquid penetrant examination records, and did not find an example where the procedure was implemented in the unqualified temperature range. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. Specifically, the inadequate qualifications were performed more than 3 years ago.

Inspection Report# : [2015001 \(pdf\)](#)

Barrier Integrity

Significance: G Aug 07, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Adequately Evaluate Damaged CRD Flange

The inspectors identified a finding of very low safety significance and an associated NCV of 10CFR50, Appendix B, Criterion III, "Design Control," for the licensee's failure to adequately evaluate a non-conforming safety-related component prior to returning it to service. Specifically, the inspectors identified that the licensee had misapplied a generic vendor evaluation on June 18, 2013, to evaluate the surface damage on control rod drive (CRD) 30-15 and therefore, failed to adequately evaluate the "Use As-Is" disposition on the damage to the flange surface prior to returning it to service. As part of the licensee's immediate corrective actions, the licensee performed a prompt operability determination of CRD 30-15 flange which adequately documented the basis for acceptance of "Use As-Is" for the flange.

Inspection Report# : [2015007 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 18, 2015

Identified By: NRC

Item Type: VIO Violation

Unqualified Radiation Protection Manager

Green. The inspectors identified a finding of very low safety significance, and an associated violation of Technical Specification (TS) 5.3.1 when an unqualified individual was designated and performed the duties of the Radiation Protection Manager since early 2015. Specifically, the individual did not have the required experience and background necessary to provide sound judgement for safe and successful operation of the plant. This designation occurred after an April 29, 2015 report documented an internal review by the licensee's Fleet Oversight group that concluded that the candidate did not meet qualifications of TS 5.3.1. The NRC determined that this violation did not meet the criteria to be treated as a Non-Cited Violation because this issue was not documented in the licensee's Corrective Action Program. In addition, the licensee's staff communicated to the inspector that no violation of TS had taken place.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the human performance attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the lack of experience and background necessary to provide sound judgement for the Radiation Protection Program affects the licensee's ability to control and limit radiation exposures. The finding was

determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” because it was not an as-low-as-reasonably-achievable planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee’s ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting aspect in the area of Human Performance, change management, because the licensee did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. (Section 4OA2) (H.3)

Inspection Report# : [2015010](#) (*pdf*)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : March 01, 2016

Perry 1

1Q/2016 Plant Inspection Findings

Initiating Events



Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement System Operating Instructions to Maintain Control of Reactor Pressure Vessel Level

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on January 24, 2016, when an unplanned automatic reactor protection system (RPS) actuation occurred as a result of the licensee's failure to correctly implement the steps outlined in procedure SOI-C34, "Feedwater Control System," Section 4.2.12.c to balance inservice flow controller outputs. Specifically, while in the process of reducing power to allow for a drywell entry to determine the location of an unidentified leak into the drywell floor drain sump, the operators failed to control reactor pressure vessel water level during shifting of feedwater pumps from a turbine-driven reactor feed pump to the motor-driven reactor feed pump, resulting in a RPS actuation initiated on reactor vessel water Level 8, shutting down the reactor. Following the reactor scram, the licensee took immediate actions to restore and maintain RPV water level in accordance with procedure ONI-C71-1, "Reactor Scram," Revision 20. The issue was entered into the licensee's corrective action program as CR 2016-01063.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it did not result in the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. Specifically, the licensee failed to provide adequate, procedural guidance on when to conduct the feedwater pump shift.

Inspection Report# : [2016001 \(pdf\)](#)



Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Control Welding and Inspection Activities to Maintain Reactor Coolant System Integrity

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," was self-revealed on January 24, 2016, for the licensee's failure to control welding and inspection activities during the replacement of the reactor recirculation loop 'A' pump discharge valve vent line during the 2015 refueling outage. When identified as the source of reactor boundary leakage in January 2016, the licensee determined that the weld did not meet the requirements on the design drawing and that the quality control (QC) inspection should have identified the non-conforming weld. The issue was entered into the licensee's corrective action program as CR 2016-01071. Corrective actions included installation of an alternative pipe and cap to replace the failed vent line appendage, plugging and capping of the reactor recirculation loop 'A' flow control valve vent line

appendage and performed a weld build up on the reactor recirculation loop ‘B’ flow control valve vent appendage line.

The inspectors determined that the licensee’s failure to control welding and inspection activities was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it was determined that after a reasonable assessment of degradation, the leak would not have exceeded the reactor coolant system leak rate for a small-break loss of coolant accident (LOCA) and the leak would not have affected other systems used to mitigate a LOCA (e.g., an interfacing system LOCA). This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, the licensee failed to provide additional precautions, controls, and oversight for the personnel performing the welding activities, inspection activities, and supervisory activities, such that the welder, QC inspector, and supervisor were able to complete a weld that met the requirements of the design drawing and to perform an adequate inspection of the weld to determine that it met the acceptance criteria established by the design drawing.

Inspection Report# : [2016001 \(pdf\)](#)

G

Significance: Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Instructions to Completely Vent Reference Legs

A self-revealed finding and an associated NCV of Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified for the licensee’s failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality. Specifically, the licensee failed to incorporate instructions into procedures to fill and vent all portions of the reactor water level reference leg purge system. This issue has been entered the issue into the CAP as CR 2016–02716 to provide a process for the activities.

The failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality was a performance deficiency. The performance deficiency was more than minor because it was associated with the configuration control performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenged critical safety functions during shutdown as well as power operations and was therefore a finding. Specifically, gas left in the reactor water level instrument reference leg purge system during maintenance equipment alignment was known to have the potential to interfere with the proper operation of pressure and level indicators relied upon for safety functions, as documented in Generic Letter 93–03. The finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident (LOCA), cause a reactor trip, involve the complete or partial loss of a support system that contributes to the likelihood of, or caused, an initiating event and did not affect mitigation equipment. The inspectors determined this finding had a cross-cutting aspect of challenge the unknown in the human performance area where individuals stop when faced with uncertain conditions and risks are evaluated and managed before proceeding. Specifically, the technicians involved in the April 18, 2015, system recovery activities did not stop when faced with an uncertain condition, communicate with supervisors, nor consult system experts to resolve the condition prior to continuing work activities. Since this condition was not placed into the corrective action process at the time, no further consideration was given to venting the reference leg portion of the reactor water level reference leg purge system.

Inspection Report# : [2016008 \(pdf\)](#)

G**Significance:** Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Hardcard Development Failed to Follow Procedure Change Process

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to follow fleet procedure NOP-SS-3001, "Procedure Review and Approval," and to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation. Specifically, the licensee characterized the hardcard development and implementation as only an administrative change, and was thereby exempted from the fleet procedure review process for new procedures. The licensee entered this finding into the corrective action program (CAP) as condition report (CR) 2016-03033 and planned to perform a causal review to ensure that actions taken in response to information provided in operations administrative instruction, OAI-1703, "Hardcards," have received appropriate review under 10 CFR 50.59.

The inspectors determined that the failure to follow the licensee's fleet and site-specific procedures to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation was a performance deficiency. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, by not performing review and approval activities in accordance with established procedures, the licensee might unintentionally challenge the operators by requiring equipment manipulation that impose unnecessary plant transients, which would result in unwarranted challenges to safety related equipment. Additionally, the performance deficiency was more than minor because it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations, and was therefore a finding. The finding was determined to be of very low safety significance because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined this finding had a cross-cutting aspect of conservative bias in the human performance area where individuals use decision making-practices that emphasize prudent choices over those that are simply allowable and a proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop. Specifically, when the licensee determined to develop the hardcard procedure as an administrative change, the decision precluded the opportunity for the licensee to properly evaluate that the procedure actions did not adversely impact existing station procedures and equipment.

Inspection Report# : [2016008 \(pdf\)](#)**G****Significance:** Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure that Systems, Structures, and Components Necessary to Achieve and Maintain Hot Shutdown Conditions were Free of Fire Damage without Repair Actions (Section 1R05.1b)

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specifications (TS) Section 5.4.1.a for the licensee's failure to perform fire watches in two fire areas for a non-functional fire barrier. Specifically, the licensee failed to perform fire watches as required by Section 16.D(1)a.(1) of Attachment 3 to procedure PAP-1910, "Fire Protection Program." The licensee entered the issue into their Corrective Action Program (CAP), and added the two fire areas to the fire watch list.

The inspectors determined that the performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, by failing to perform fire watches the licensee may not have been able to identify transient combustible materials that could have impacted the unprotected circuits associated with this deficiency in the event of a fire. This finding was of very low safety significance because it only impacted one train of equipment important to safety. This finding has a cross-cutting aspect in the area of

Human Performance, Documentation because the licensee did not create and maintain complete, accurate, and up-to-date documentation. Specifically, when the licensee developed the fire watch list they did not include all impacted fire zones as listed in the initial impairment. [H.7]

Inspection Report# : [2015008 \(pdf\)](#)

Mitigating Systems

Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Take Actions to Prevent a Loss of Safety Function during Reactor Recirculation Pump Downshift

A finding of very low safety significance and an associated NCV of TS 5.4.1, "Procedures," was self-revealed on January 24, 2016, when a loss of safety system function occurred as a result of the operators failing to take steps to prevent all operable average power range monitors (APRMs) from becoming out of specification in the non-conservative direction after a recirculation pump shift to slow speed. Specifically, while in the process of reducing power to allow for a drywell entry at low power, the recirculation pumps were shifted and all operable APRMs went out of specification low, which is the non-conservative direction. The operators immediately declared the APRMs inoperable and took actions to restore the operability of at least one APRM in each channel. The issue was entered into the licensee's CAP as CR 2016-01058.

The licensee's failure to take action to prevent all operable APRMs from going out of calibration low, despite understanding the cause, was determined to be more than minor and thus a finding, because it was associated with the Mitigating Systems cornerstone attribute of human performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not result in the loss of reactivity control systems beyond a single trip signal function and did not result in a mismanagement of reactivity by the operators. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for knowing that the APRMs would go out of calibration because of the pump shift but without regard for the inherent risk while expecting the successful outcome that at least one would stay in calibration without any consideration of potential actions that could have been taken to prevent the loss of safety function and reportable condition.

Inspection Report# : [2016001 \(pdf\)](#)

Significance: Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain Traceability of Safety Related Fuses

The inspectors identified a finding of very low safety significance and an associated NCV of Title 10 CFR 50, Appendix B, Criterion VIII, "Identification and Control of Materials, Parts, and Components," for the licensee's failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The licensee has entered this issue into the CAP as CR 2016-02048 and CR 2016-02258. Corrective actions being performed by the licensee include evaluating implementation of procedure

NOP-WM-4300 for documenting use of parts in safety related systems and issuing work orders to determine where the potentially defective fuses were installed in the Division 2 and 3 safety related buses for replacement.

The inspectors determined that the failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item was a performance deficiency. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, identification and control measures are designed to prevent the use of incorrect or defective materials, parts or components which could render safety systems inoperable. Additionally, the performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and was, therefore, a finding. The finding was determined to be of very low safety significance because the finding was not a deficiency affecting the design or qualification of a mitigating structure system or component, did not represent a loss of system safety function, did not represent an actual loss of function of a single train or two separate trains for greater than its allowed outage time, and did not represent an actual loss of safety function of one or more non-technical specifications trains of equipment during shutdown for equipment designated as high safety significant for greater than 24 hours. The inspectors determined this finding had a cross-cutting aspect of documentation in the human performance area where the organization creates and maintains complete, accurate and up-to-date documentation. Specifically, a review by the licensee of existing work orders that may have utilized the fuses did not clearly document if the fuses were installed, returned to the warehouse or scrapped.

Inspection Report# : [2016008 \(pdf\)](#)

Significance: Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Required 3 Hour Fire Barriers Were In-Place

The inspectors identified a finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), Fire Protection, for the licensee's failure to maintain a three-hour fire barriers as required by the Updated Safety Analysis Report (USAR). Specifically, the inspectors identified a through-wall hole, approximately two feet wide and two feet tall in the common wall between the Unit 2, Division 1 and Division 2, direct current (DC) switchgear rooms and another hole, approximately one foot wide and one foot tall between the Unit 2, Division 2 DC switchgear room and the outside hallway.

The two through-wall holes were determined to be a performance deficiency associated with compliance to the licensee's fire protection program because the walls are described in the USAR as three-hour fire barriers for the rooms in question. The performance deficiency was more than minor; and thus a finding, because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance through analysis of the issue as a fire confinement problem and the fact that the reactor would still be able to reach and maintain safe shutdown despite the deficiency. The inspectors identified no cross-cutting issues associated with this finding because the condition has existed since at least July 2011, and therefore, is not indicative of current plant performance.

Inspection Report# : [2015004 \(pdf\)](#)

Significance: Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement the System Operating Instruction to Restore RHR “B” to Service

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1, “Procedures,” was self-revealed on November 4, 2015 when operators failed to follow procedures and caused an increase in level of the suppression pool. Specifically, during the process of recovering the “B” RHR system in accordance with system operating instruction SOI-E12, “Residual Heat Removal System,” the operators failed to follow an “If/Then” statement and did not isolate the alternate keep-fill system prior to starting the RHR pump to sweep voids into the suppression pool. This resulted in the condensate transfer system remaining lined up to “B” RHR train and transfer of an estimated 15,000 gallons of condensate water to the suppression pool. The resultant increasing suppression pool level caused a suction swaps for both HPCS and RCIC to the suppression pool. The licensee took immediate actions to suspend the evolution, restored the suppression pool level to the middle of the acceptable band, and restored the suction sources for HPCS and RCIC to the condensate storage tank. A human performance event response investigation was conducted and the operating crew was remediated. The issue was entered into the licensee’s CAP as

CR 2015–15089.

The operator’s failure to follow the procedure was a performance deficiency that was determined to be more than minor; and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee’s Maintenance Rule Program for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, problem resolution, because the licensee had not solved a similar issue in third quarter of 2015 that involved the same contributing factors of poor maintenance supervision, inadequate pre-job briefs and poor shift management oversight. [P.3]

Inspection Report# : [2015004 \(pdf\)](#)

G

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Inspect Penetration Seals Within the Required Time Frequency (Section 1R05.2b)

The inspectors identified a finding of very low safety significance (Green), and associated NCV of license condition 2.C(6) for the licensee’s failure to ensure that systems, structures, and components necessary to achieve and maintain hot shutdown conditions were free of fire damage. Specifically, the licensee did not ensure that circuits associated with the emergency closed cooling (ECC) heat exchanger ‘A’ temperature control valve 1P42-F665A were free of fire damage for a fire in the control room and instead relied on lifting leads and replacing fuses to take manual control of the valve. The licensee entered the issue into their CAP, and credited the existing repair activities in the procedure. The inspectors determined that the performance deficiency was more than minor because a fire in the control room could result in the licensee losing the ability to remotely control the ECC heat exchanger ‘A’ temperature control valve and needing to take manual control of the valve. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance

Inspection Report# : [2015008 \(pdf\)](#)

G

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Adequate Guidance to Override Spurious CO₂ Initiation Signal in the Diesel Generator Rooms (Section 1R05.6b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of license condition 2.C(6) for the licensee's failure to adequately implement and maintain surveillance procedures and work processes associated with fire barrier and penetration seal inspections. Specifically, the licensee failed to perform fire barrier penetration seal inspections for 42 penetration seals at least once per 15 years (plus an additional 25 percent grace period) as required by the Fire Protection Program. The licensee entered the issue into their CAP, and will inspect the accessible portions of the barriers and will perform a full inspection at the next available opportunity. The inspectors determined that the performance deficiency was more than minor because the licensee's failure to inspect the fire barrier penetrations could result in not identifying degraded seals which could affect their ability to prevent a fire from spreading from one fire area to another. The finding was of very low safety significance because the failure to inspect a portion of fire barrier penetration seals did not impact the plant's ability to reach and maintain safe shutdown. The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee improperly closed a notification to track the inspection of fire barrier penetrations without creating a work order. [H.5]

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Fire Watches (Section 1R05.10b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of TS Section 5.4.1.a for the licensee's failure to have adequate procedural guidance in their fire response procedure. Specifically, Procedure ONI-P54, "Fire," Revision 19 did not list all the fire areas where a potential fire induced spurious carbon dioxide (CO₂) initiation in the emergency diesel generator (EDG) room could occur. The licensee entered this issue into their CAP, and established hourly fire watches for the affected areas.

The inspectors determined that the performance deficiency was more than minor because a fire in any of the affected fire zones could damage circuits for the nonsafety related CO₂ systems for the EDG rooms causing a potential spurious CO₂ initiation in the diesel rooms and affecting the operation of the ventilation fans and dampers in the diesel rooms. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance.

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Operating Procedure for Diesel Generator Building Ventilation System

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure as of July 8, 2015, to establish and maintain an adequate procedure for operation of the Diesel Generator Building Ventilation System (DGBVS). Specifically, the DGBVS operating procedure did not ensure that diesel room temperature would remain below limits during testing.

The failure to establish and maintain an adequate procedure was a performance deficiency and resulted in the Division 2 Diesel Generator room temperatures exceeding specified limits. The performance deficiency was more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the

finding was of very low safety significance because the finding is a deficiency affecting the design or qualification of a mitigating structure, system, and component (SSC) that maintained its operability. This finding has a cross-cutting aspect in the area of human performance, design margins, because the licensee did not incorporate the degree of redundancy specified in the Updated Safety Analysis Report for DGBVS into the applicable operating procedures (H.6).

Inspection Report# : [2015003 \(pdf\)](#)

Significance: Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Properly Implement Steps Outlined in a Technical Specification Surveillance Procedure

A finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on August 5, 2015, when an unexpected isolation of the reactor core isolation cooling (RCIC) system occurred as a result of the licensee's failure to properly implement the steps outlined in TS Surveillance Procedure, SVI-E31-T5395B, "RCIC Steam Line Flow High Channel Functional for 1E31-N684B." Specifically, during performance of the surveillance, several steps were marked as not applicable that were applicable to prevent the isolation of the RCIC system. As a result, the licensee failed to lift leads as required by the procedure and the RCIC steam supply inboard isolation valve then closed when the isolation trip signal was applied during the test. The licensee took immediate actions to restore system operability and availability and conducted a human performance event response investigation. A standing order for both Operations and Instrumentation and Controls personnel was initiated addressing interim actions for control room surveillance performance and to reinforce maintenance fundamentals and human performance behaviors.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-Technical Specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for failing to recognize and plan for the possibility of mistakes, and for failure to implement appropriate error reduction tools, such as proper self-checks and peer checks, which resulted in an isolation of the RCIC system (H.12).

Inspection Report# : [2015003 \(pdf\)](#)

Barrier Integrity

Significance: Aug 07, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Adequately Evaluate Damaged CRD Flange

The inspectors identified a finding of very low safety significance and an associated NCV of 10CFR50, Appendix B, Criterion III, "Design Control," for the licensee's failure to adequately evaluate a non-conforming safety-related component prior to returning it to service. Specifically, the inspectors identified that the licensee had misapplied a generic vendor evaluation on June 18, 2013, to evaluate the surface damage on control rod drive (CRD) 30-15 and therefore, failed to adequately evaluate the "Use As-Is" disposition on the damage to the flange surface prior to

returning it to service. As part of the licensee's immediate corrective actions, the licensee performed a prompt operability determination of CRD 30-15 flange which adequately documented the basis for acceptance of "Use As-Is" for the flange.

Inspection Report# : [2015007 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: **G** Dec 18, 2015

Identified By: NRC

Item Type: VIO Violation

Unqualified Radiation Protection Manager

Green. The inspectors identified a finding of very low safety significance, and an associated violation of Technical Specification (TS) 5.3.1 when an unqualified individual was designated and performed the duties of the Radiation Protection Manager since early 2015. Specifically, the individual did not have the required experience and background necessary to provide sound judgement for safe and successful operation of the plant. This designation occurred after an April 29, 2015 report documented an internal review by the licensee's Fleet Oversight group that concluded that the candidate did not meet qualifications of TS 5.3.1. The NRC determined that this violation did not meet the criteria to be treated as a Non-Cited Violation because this issue was not documented in the licensee's Corrective Action Program. In addition, the licensee's staff communicated to the inspector that no violation of TS had taken place.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the human performance attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the lack of experience and background necessary to provide sound judgement for the Radiation Protection Program affects the licensee's ability to control and limit radiation exposures. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was not an as-low-as-reasonably-achievable planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting aspect in the area of Human Performance, change management, because the licensee did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. (Section 4OA2) (H.3)

Inspection Report# : [2015010 \(pdf\)](#)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : July 11, 2016

Perry 1

2Q/2016 Plant Inspection Findings

Initiating Events

Significance: G May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ASME Code Requirements for Repair on Code Class 1 Component (Section 4OA2.1)

A finding of very-low safety significance (Green) and associated NCV of 10 CFR 50.55a(g)(4) was identified by the inspectors for the licensee's failure to maintain the American Society of Mechanical Engineers (ASME) Code Class 1 component in accordance with ASME Code Section XI requirements. Specifically, the licensee failed to measure and document the method of measuring the cavity created after removal of indications on the reactor water clean-up line prior to return to service.

The inspectors determined that the licensee's failure to maintain the ASME Code Class 1 component in accordance with ASME Code Section XI requirements was a performance deficiency. This performance deficiency was found to be more-than-minor, and a finding, because the performance deficiency, if left uncorrected could become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have questioned the potential challenge to component functionality since the cavity measurements were not performed. This condition could potentially lead to the failure of the reactor water clean-up bottom head drain, which in turn, could lead to a potential loss of reactor coolant. The inspectors reviewed the finding using Attachment 0609.04, "Initial Characterization of Findings," Table 3 – SDP Appendix Router. The inspectors answered 'No' to the question in Section A of Table 3 and therefore the finding was evaluated using the SDP in accordance with IMC 0609, "The Significance Determination Process (SDP) for At-Power Operations," Appendix A, Exhibit 1, "Initiating Events Screening Questions". The inspectors answered "No" to the questions in Exhibit 1 and determined this finding to have a very-low safety significance (Green). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Design Margin, for the licensee's failure to maintain equipment within design margins. Specifically, the licensee staff failed to ensure that metal removal performed on an ASME Code Class 1 component did not result in a condition where the minimum design wall thickness of the component was compromised, and therefore, failed to ensure design margin was maintained. [H.6]

Inspection Report# : [2016007 \(pdf\)](#)

Significance: G Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement System Operating Instructions to Maintain Control of Reactor Pressure Vessel Level

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on January 24, 2016, when an unplanned automatic reactor protection system (RPS) actuation occurred as a result of the licensee's failure to correctly implement the steps outlined in procedure SOI-C34, "Feedwater Control System," Section 4.2.12.c to balance inservice flow controller outputs. Specifically, while in the process of reducing power to allow for a drywell entry to determine the location of an unidentified leak into the drywell floor drain sump, the operators failed to control reactor pressure vessel water level during shifting of

feedwater pumps from a turbine-driven reactor feed pump to the motor-driven reactor feed pump, resulting in a RPS actuation initiated on reactor vessel water Level 8, shutting down the reactor. Following the reactor scram, the licensee took immediate actions to restore and maintain RPV water level in accordance with procedure ONI-C71-1, "Reactor Scram," Revision 20. The issue was entered into the licensee's corrective action program as CR 2016-01063.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it did not result in the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. Specifically, the licensee failed to provide adequate, procedural guidance on when to conduct the feedwater pump shift.

Inspection Report# : [2016001 \(pdf\)](#)

Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Control Welding and Inspection Activities to Maintain Reactor Coolant System Integrity

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," was self-revealed on January 24, 2016, for the licensee's failure to control welding and inspection activities during the replacement of the reactor recirculation loop 'A' pump discharge valve vent line during the 2015 refueling outage. When identified as the source of reactor boundary leakage in January 2016, the licensee determined that the weld did not meet the requirements on the design drawing and that the quality control (QC) inspection should have identified the non-conforming weld. The issue was entered into the licensee's corrective action program as CR 2016-01071. Corrective actions included installation of an alternative pipe and cap to replace the failed vent line appendage, plugging and capping of the reactor recirculation loop 'A' flow control valve vent line appendage and performed a weld build up on the reactor recirculation loop 'B' flow control valve vent appendage line.

The inspectors determined that the licensee's failure to control welding and inspection activities was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it was determined that after a reasonable assessment of degradation, the leak would not have exceeded the reactor coolant system leak rate for a small-break loss of coolant accident (LOCA) and the leak would not have affected other systems used to mitigate a LOCA (e.g., an interfacing system LOCA). This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, the licensee failed to provide additional precautions, controls, and oversight for the personnel performing the welding activities, inspection activities, and supervisory activities, such that the welder, QC inspector, and supervisor were able to complete a weld that met the requirements of the design drawing and to perform an adequate inspection of the weld to determine that it met the acceptance criteria established by the design drawing.

Inspection Report# : [2016001 \(pdf\)](#)

G**Significance:** Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Instructions to Completely Vent Reference Legs

A self-revealed finding and an associated NCV of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the licensee's failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality. Specifically, the licensee failed to incorporate instructions into procedures to fill and vent all portions of the reactor water level reference leg purge system. This issue has been entered the issue into the CAP as CR 2016-02716 to provide a process for the activities.

The failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality was a performance deficiency. The performance deficiency was more than minor because it was associated with the configuration control performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenged critical safety functions during shutdown as well as power operations and was therefore a finding. Specifically, gas left in the reactor water level instrument reference leg purge system during maintenance equipment alignment was known to have the potential to interfere with the proper operation of pressure and level indicators relied upon for safety functions, as documented in Generic Letter 93-03. The finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident (LOCA), cause a reactor trip, involve the complete or partial loss of a support system that contributes to the likelihood of, or caused, an initiating event and did not affect mitigation equipment. The inspectors determined this finding had a cross-cutting aspect of challenge the unknown in the human performance area where individuals stop when faced with uncertain conditions and risks are evaluated and managed before proceeding. Specifically, the technicians involved in the April 18, 2015, system recovery activities did not stop when faced with an uncertain condition, communicate with supervisors, nor consult system experts to resolve the condition prior to continuing work activities. Since this condition was not placed into the corrective action process at the time, no further consideration was given to venting the reference leg portion of the reactor water level reference leg purge system.

Inspection Report# : [2016008 \(pdf\)](#)**G****Significance:** Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Hardcard Development Failed to Follow Procedure Change Process

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to follow fleet procedure NOP-SS-3001, "Procedure Review and Approval," and to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation. Specifically, the licensee characterized the hardcard development and implementation as only an administrative change, and was thereby exempted from the fleet procedure review process for new procedures. The licensee entered this finding into the corrective action program (CAP) as condition report (CR) 2016-03033 and planned to perform a causal review to ensure that actions taken in response to information provided in operations administrative instruction, OAI-1703, "Hardcards," have received appropriate review under 10 CFR 50.59.

The inspectors determined that the failure to follow the licensee's fleet and site-specific procedures to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation was a performance deficiency. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, by not performing review and approval activities in accordance with established procedures, the licensee might unintentionally challenge the operators by

requiring equipment manipulation that impose unnecessary plant transients, which would result in unwarranted challenges to safety related equipment. Additionally, the performance deficiency was more than minor because it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations, and was therefore a finding. The finding was determined to be of very low safety significance because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined this finding had a cross-cutting aspect of conservative bias in the human performance area where individuals use decision making-practices that emphasize prudent choices over those that are simply allowable and a proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop. Specifically, when the licensee determined to develop the hardcard procedure as an administrative change, the decision precluded the opportunity for the licensee to properly evaluate that the procedure actions did not adversely impact existing station procedures and equipment.

Inspection Report# : [2016008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure that Systems, Structures, and Components Necessary to Achieve and Maintain Hot Shutdown Conditions were Free of Fire Damage without Repair Actions (Section 1R05.1b)

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specifications (TS) Section 5.4.1.a for the licensee's failure to perform fire watches in two fire areas for a non-functional fire barrier. Specifically, the licensee failed to perform fire watches as required by Section 16.D(1)a.(1) of Attachment 3 to procedure PAP-1910, "Fire Protection Program." The licensee entered the issue into their Corrective Action Program (CAP), and added the two fire areas to the fire watch list.

The inspectors determined that the performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, by failing to perform fire watches the licensee may not have been able to identify transient combustible materials that could have impacted the unprotected circuits associated with this deficiency in the event of a fire. This finding was of very low safety significance because it only impacted one train of equipment important to safety. This finding has a cross-cutting aspect in the area of Human Performance, Documentation because the licensee did not create and maintain complete, accurate, and up-to-date documentation. Specifically, when the licensee developed the fire watch list they did not include all impacted fire zones as listed in the initial impairment. [H.7]

Inspection Report# : [2015008 \(pdf\)](#)

Mitigating Systems

Significance: May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Document 50.59 Evaluation for Replacement of a Manual Action with an Automatic Action (Section 1R17.1.b)

The inspectors identified a Severity Level IV, NCV of Title 10 of the Code of Federal Regulations (CFR), Part 50.59, "Changes, Tests, and Experiments," having very low safety significance (Green) for failure to document the basis for performing a plant modification where a manual operator action was replaced with an automatic action. Specifically, the licensee did not evaluate whether adding a safety related function to a nonsafety-related component was within the

licensing basis of the facility.

The inspectors determined that the failure to perform a 10 CFR 50.59 evaluation for Plant Modification 11-0794 was contrary to 10 CFR 50.59(d)(1) and was a performance deficiency. The performance deficiency was determined to be more-than-minor and a finding, because the finding impacted mitigating systems cornerstone attribute of Design Control and adversely affected the Cornerstone Objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, this plan modification added a Safety Related function to a Nonsafety-Related component and, therefore, impacted the availability, reliability, and capability of the Safety-Related Battery Room ventilation system and the Safety-Related Motor Control Center, Switchgear, and Miscellaneous Electrical Equipment Area ventilation system. In addition, the associated violation was determined to be more-than-minor because the inspectors could not reasonably determine that the changes would not have ultimately required NRC prior approval. The inspectors determined that finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process." Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Mitigating Systems cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, for the Mitigating Systems cornerstone. The inspectors answered "No" to question A.4 in Exhibit 2 – Mitigating System Screening Questions. Specifically, the inspectors determined the finding did not represent an actual loss of the Battery Room ventilation system or Motor Control Center, Switchgear, and Miscellaneous Electrical Equipment Area ventilation system because the automatic action had not been implemented at the time of the finding. Therefore, the inspectors determined the significance of this finding to be of very-low safety significance (Green). In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The inspectors determined the finding was associated with the cross-cutting aspect of Procedure Adherence in the area of Human Performance, because the licensee failed to follow the screening criteria in Attachment 2 of Procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines. [H.8]

Inspection Report# : [2016007 \(pdf\)](#)

Significance: G May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Use of Unapproved Standard for Site Flooding Modifications of Analysis (Section 1R17.2.b)

The inspectors identified a Severity Level IV, NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," having very-low safety significance (Green) for the licensee's failure to conclude that site flooding modifications and associated analysis included a standard that resulted in a departure from the method of evaluation as described in the Updated Final Safety Analysis Report. Specifically, the licensee used a new method for evaluation of design basis flooding at Perry Nuclear Power Plant that is different from the method described in the Updated Final Safety Analysis Report and not approved by the NRC.

The inspectors determined that the licensee's use of an unapproved methodology for site flooding modifications and associated analysis that constituted a departure from a method of evaluation was contrary to 10 CFR 50.59(c)(2)(8) and was a performance deficiency. Specifically, the licensee used a new method for evaluation of design basis flooding at Perry Nuclear Power Plant that is different from the method described in the Updated Final Safety Analysis Report and not approved by the NRC. The performance deficiency was determined to be more-than-minor, and a finding, because it affected the cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In addition, the associated violation was determined to be more-than-minor because the inspectors determined that there was a reasonable likelihood that the changes would have required prior NRC approval. The inspectors determined that finding could be evaluated using the SDP in

accordance with IMC 0609, "Significance Determination Process". Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Mitigating Systems cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, for the Mitigating Systems cornerstone. The inspectors answered "Yes" to question A.1 in Exhibit 2 – Mitigating Systems Screening Questions. Specifically, the inspectors determined the finding did not result in systems, structures, and components not being able to maintain their operability or functionality. Therefore, the inspectors determined the significance of this finding to be of very-low safety significance (Green). In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The inspectors determined that this finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Problem Identification, for the licensee's failure to identify issues completely, accurately, and in a timely manner. Specifically, the licensee's 50.59 review committee failed to accurately identify the methodology change concern in Evaluation 14-01234 during a review documented in CR2015-14025. [P.1]

Inspection Report# : [2016007](#) ([pdf](#))

G

Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Take Actions to Prevent a Loss of Safety Function during Reactor Recirculation Pump Downshift

A finding of very low safety significance and an associated NCV of TS 5.4.1, "Procedures," was self-revealed on January 24, 2016, when a loss of safety system function occurred as a result of the operators failing to take steps to prevent all operable average power range monitors (APRMs) from becoming out of specification in the non-conservative direction after a recirculation pump shift to slow speed. Specifically, while in the process of reducing power to allow for a drywell entry at low power, the recirculation pumps were shifted and all operable APRMs went out of specification low, which is the non-conservative direction. The operators immediately declared the APRMs inoperable and took actions to restore the operability of at least one APRM in each channel. The issue was entered into the licensee's CAP as CR 2016-01058.

The licensee's failure to take action to prevent all operable APRMs from going out of calibration low, despite understanding the cause, was determined to be more than minor and thus a finding, because it was associated with the Mitigating Systems cornerstone attribute of human performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not result in the loss of reactivity control systems beyond a single trip signal function and did not result in a mismanagement of reactivity by the operators. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for knowing that the APRMs would go out of calibration because of the pump shift but without regard for the inherent risk while expecting the successful outcome that at least one would stay in calibration without any consideration of potential actions that could have been taken to prevent the loss of safety function and reportable condition.

Inspection Report# : [2016001](#) ([pdf](#))

G

Significance: Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain Traceability of Safety Related Fuses

The inspectors identified a finding of very low safety significance and an associated NCV of Title 10 CFR 50, Appendix B, Criterion VIII, "Identification and Control of Materials, Parts, and Components," for the licensee's failure to assure that identification of items was maintained by appropriate means, either on the item or on records

traceable to the item, as required throughout fabrication, erection, installation, and use of the item. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The licensee has entered this issue into the CAP as CR 2016-02048 and CR 2016-02258. Corrective actions being performed by the licensee include evaluating implementation of procedure

NOP-WM-4300 for documenting use of parts in safety related systems and issuing work orders to determine where the potentially defective fuses were installed in the Division 2 and 3 safety related buses for replacement.

The inspectors determined that the failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item was a performance deficiency. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, identification and control measures are designed to prevent the use of incorrect or defective materials, parts or components which could render safety systems inoperable. Additionally, the performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and was, therefore, a finding. The finding was determined to be of very low safety significance because the finding was not a deficiency affecting the design or qualification of a mitigating structure system or component, did not represent a loss of system safety function, did not represent an actual loss of function of a single train or two separate trains for greater than its allowed outage time, and did not represent an actual loss of safety function of one or more non-technical specifications trains of equipment during shutdown for equipment designated as high safety significant for greater than 24 hours. The inspectors determined this finding had a cross-cutting aspect of documentation in the human performance area where the organization creates and maintains complete, accurate and up-to-date documentation. Specifically, a review by the licensee of existing work orders that may have utilized the fuses did not clearly document if the fuses were installed, returned to the warehouse or scrapped.

Inspection Report# : [2016008 \(pdf\)](#)

Significance: G Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Required 3 Hour Fire Barriers Were In-Place

The inspectors identified a finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), Fire Protection, for the licensee's failure to maintain a three-hour fire barriers as required by the Updated Safety Analysis Report (USAR). Specifically, the inspectors identified a through-wall hole, approximately two feet wide and two feet tall in the common wall between the Unit 2, Division 1 and Division 2, direct current (DC) switchgear rooms and another hole, approximately one foot wide and one foot tall between the Unit 2, Division 2 DC switchgear room and the outside hallway.

The two through-wall holes were determined to be a performance deficiency associated with compliance to the licensee's fire protection program because the walls are described in the USAR as three-hour fire barriers for the rooms in question. The performance deficiency was more than minor; and thus a finding, because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance through analysis of the issue as a fire confinement problem and the fact that the reactor would still be able to reach and maintain safe shutdown despite the deficiency. The inspectors identified no cross-cutting issues associated with this finding because the condition has existed since at least July 2011, and therefore, is not indicative of current plant performance.

Inspection Report# : [2015004 \(pdf\)](#)**G****Significance:** Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement the System Operating Instruction to Restore RHR “B” to Service

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1, “Procedures,” was self-revealed on November 4, 2015 when operators failed to follow procedures and caused an increase in level of the suppression pool. Specifically, during the process of recovering the “B” RHR system in accordance with system operating instruction SOI-E12, “Residual Heat Removal System,” the operators failed to follow an “If/Then” statement and did not isolate the alternate keep-fill system prior to starting the RHR pump to sweep voids into the suppression pool. This resulted in the condensate transfer system remaining lined up to “B” RHR train and transfer of an estimated 15,000 gallons of condensate water to the suppression pool. The resultant increasing suppression pool level caused a suction swaps for both HPCS and RCIC to the suppression pool. The licensee took immediate actions to suspend the evolution, restored the suppression pool level to the middle of the acceptable band, and restored the suction sources for HPCS and RCIC to the condensate storage tank. A human performance event response investigation was conducted and the operating crew was remediated. The issue was entered into the licensee’s CAP as

CR 2015–15089.

The operator’s failure to follow the procedure was a performance deficiency that was determined to be more than minor; and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee’s Maintenance Rule Program for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, problem resolution, because the licensee had not solved a similar issue in third quarter of 2015 that involved the same contributing factors of poor maintenance supervision, inadequate pre-job briefs and poor shift management oversight.

[P.3]

Inspection Report# : [2015004 \(pdf\)](#)**G****Significance:** Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Inspect Penetration Seals Within the Required Time Frequency (Section 1R05.2b)

The inspectors identified a finding of very low safety significance (Green), and associated NCV of license condition 2.C(6) for the licensee’s failure to ensure that systems, structures, and components necessary to achieve and maintain hot shutdown conditions were free of fire damage. Specifically, the licensee did not ensure that circuits associated with the emergency closed cooling (ECC) heat exchanger ‘A’ temperature control valve 1P42-F665A were free of fire damage for a fire in the control room and instead relied on lifting leads and replacing fuses to take manual control of the valve. The licensee entered the issue into their CAP, and credited the existing repair activities in the procedure. The inspectors determined that the performance deficiency was more than minor because a fire in the control room could result in the licensee losing the ability to remotely control the ECC heat exchanger ‘A’ temperature control valve and needing to take manual control of the valve. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance

Inspection Report# : [2015008 \(pdf\)](#)**G****Significance:** Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Adequate Guidance to Override Spurious CO2 Initiation Signal in the Diesel Generator Rooms (Section 1R05.6b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of license condition 2.C(6) for the licensee's failure to adequately implement and maintain surveillance procedures and work processes associated with fire barrier and penetration seal inspections. Specifically, the licensee failed to perform fire barrier penetration seal inspections for 42 penetration seals at least once per 15 years (plus an additional 25 percent grace period) as required by the Fire Protection Program. The licensee entered the issue into their CAP, and will inspect the accessible portions of the barriers and will perform a full inspection at the next available opportunity. The inspectors determined that the performance deficiency was more than minor because the licensee's failure to inspect the fire barrier penetrations could result in not identifying degraded seals which could affect their ability to prevent a fire from spreading from one fire area to another. The finding was of very low safety significance because the failure to inspect a portion of fire barrier penetration seals did not impact the plant's ability to reach and maintain safe shutdown. The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee improperly closed a notification to track the inspection of fire barrier penetrations without creating a work order. [H.5]

Inspection Report# : [2015008 \(pdf\)](#)**G****Significance:** Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Fire Watches (Section 1R05.10b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of TS Section 5.4.1.a for the licensee's failure to have adequate procedural guidance in their fire response procedure. Specifically, Procedure ONI-P54, "Fire," Revision 19 did not list all the fire areas where a potential fire induced spurious carbon dioxide (CO₂) initiation in the emergency diesel generator (EDG) room could occur. The licensee entered this issue into their CAP, and established hourly fire watches for the affected areas.

The inspectors determined that the performance deficiency was more than minor because a fire in any of the affected fire zones could damage circuits for the nonsafety related CO₂ systems for the EDG rooms causing a potential spurious CO₂ initiation in the diesel rooms and affecting the operation of the ventilation fans and dampers in the diesel rooms. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance.

Inspection Report# : [2015008 \(pdf\)](#)**G****Significance:** Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Operating Procedure for Diesel Generator Building Ventilation System

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure as of July 8, 2015, to establish and maintain an adequate procedure for operation of the Diesel Generator Building Ventilation System (DGBVS). Specifically, the DGBVS operating procedure did not ensure that diesel room temperature would remain below limits during testing.

The failure to establish and maintain an adequate procedure was a performance deficiency and resulted in the Division 2 Diesel Generator room temperatures exceeding specified limits. The performance deficiency was more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance because the finding is a deficiency affecting the design or qualification of a mitigating structure, system, and component (SSC) that maintained its operability. This finding has a cross-cutting aspect in the area of human performance, design margins, because the licensee did not incorporate the degree of redundancy specified in the Updated Safety Analysis Report for DGBVS into the applicable operating procedures (H.6).

Inspection Report# : [2015003 \(pdf\)](#)

Significance: Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Properly Implement Steps Outlined in a Technical Specification Surveillance Procedure

A finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on August 5, 2015, when an unexpected isolation of the reactor core isolation cooling (RCIC) system occurred as a result of the licensee's failure to properly implement the steps outlined in TS Surveillance Procedure, SVI-E31-T5395B, "RCIC Steam Line Flow High Channel Functional for 1E31-N684B." Specifically, during performance of the surveillance, several steps were marked as not applicable that were applicable to prevent the isolation of the RCIC system. As a result, the licensee failed to lift leads as required by the procedure and the RCIC steam supply inboard isolation valve then closed when the isolation trip signal was applied during the test. The licensee took immediate actions to restore system operability and availability and conducted a human performance event response investigation. A standing order for both Operations and Instrumentation and Controls personnel was initiated addressing interim actions for control room surveillance performance and to reinforce maintenance fundamentals and human performance behaviors.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-Technical Specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for failing to recognize and plan for the possibility of mistakes, and for failure to implement appropriate error reduction tools, such as proper self-checks and peer checks, which resulted in an isolation of the RCIC system (H.12).

Inspection Report# : [2015003 \(pdf\)](#)

Barrier Integrity

Significance: Aug 07, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Adequately Evaluate Damaged CRD Flange

The inspectors identified a finding of very low safety significance and an associated NCV of 10CFR50, Appendix B, Criterion III, "Design Control," for the licensee's failure to adequately evaluate a non-conforming safety-related component prior to returning it to service. Specifically, the inspectors identified that the licensee had misapplied a generic vendor evaluation on June 18, 2013, to evaluate the surface damage on control rod drive (CRD) 30-15 and therefore, failed to adequately evaluate the "Use As-Is" disposition on the damage to the flange surface prior to returning it to service. As part of the licensee's immediate corrective actions, the licensee performed a prompt operability determination of CRD 30-15 flange which adequately documented the basis for acceptance of "Use As-Is" for the flange.

Inspection Report# : [2015007 \(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

G

Significance: Dec 18, 2015

Identified By: NRC

Item Type: VIO Violation

Unqualified Radiation Protection Manager

Green. The inspectors identified a finding of very low safety significance, and an associated violation of Technical Specification (TS) 5.3.1 when an unqualified individual was designated and performed the duties of the Radiation Protection Manager since early 2015. Specifically, the individual did not have the required experience and background necessary to provide sound judgement for safe and successful operation of the plant. This designation occurred after an April 29, 2015 report documented an internal review by the licensee's Fleet Oversight group that concluded that the candidate did not meet qualifications of TS 5.3.1. The NRC determined that this violation did not meet the criteria to be treated as a Non-Cited Violation because this issue was not documented in the licensee's Corrective Action Program. In addition, the licensee's staff communicated to the inspector that no violation of TS had taken place.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the human performance attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the lack of experience and background necessary to provide sound judgement for the Radiation Protection Program affects the licensee's ability to control and limit radiation exposures. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was not an as-low-as-reasonably-achievable planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting aspect in the area of Human Performance, change management, because the licensee did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. (Section 4OA2) (H.3)

Inspection Report# : [2015010 \(pdf\)](#)

Public Radiation Safety

G

Significance: Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ODCM during Liquid Effluent Discharge

A finding of very low safety significance, and an associated NCV of Technical Specification (TS) 5.5.1 was identified by the NRC inspectors for the failure to follow Offsite Dose Calculation Manual (ODCM) requirements during the execution of a liquid effluent discharge. The license entered this event into their CAP as CR-2016-07572 and the individual was coached regarding procedure compliance.

The inspectors determined that the performance deficiency was more than minor because the issue impacted the program and process attribute of the Public Radiation Safety cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Specifically, on February 1, 2016, a liquid effluent discharge was performed with the radwaste to essential service water discharge monitor inoperable and without the required independent verification of release rate calculations. The finding was determined to be of very low safety significance (Green) because it was not a failure to implement the Effluent Program, nor did public dose exceed Appendix I or Title 10 of the Code of Federal Regulations (CFR), Part 20.1301(e) criteria. The inspectors concluded that the finding had a cross-cutting aspect in the human performance area of procedure adherence because procedures for this task were not followed.

Inspection Report# : [2016002 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2016

Perry 1

3Q/2016 Plant Inspection Findings

Initiating Events

Significance: G May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ASME Code Requirements for Repair on Code Class 1 Component (Section 4OA2.1)

A finding of very-low safety significance (Green) and associated NCV of 10 CFR 50.55a(g)(4) was identified by the inspectors for the licensee's failure to maintain the American Society of Mechanical Engineers (ASME) Code Class 1 component in accordance with ASME Code Section XI requirements. Specifically, the licensee failed to measure and document the method of measuring the cavity created after removal of indications on the reactor water clean-up line prior to return to service.

The inspectors determined that the licensee's failure to maintain the ASME Code Class 1 component in accordance with ASME Code Section XI requirements was a performance deficiency. This performance deficiency was found to be more-than-minor, and a finding, because the performance deficiency, if left uncorrected could become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have questioned the potential challenge to component functionality since the cavity measurements were not performed. This condition could potentially lead to the failure of the reactor water clean-up bottom head drain, which in turn, could lead to a potential loss of reactor coolant. The inspectors reviewed the finding using Attachment 0609.04, "Initial Characterization of Findings," Table 3 – SDP Appendix Router. The inspectors answered 'No' to the question in Section A of Table 3 and therefore the finding was evaluated using the SDP in accordance with IMC 0609, "The Significance Determination Process (SDP) for At-Power Operations," Appendix A, Exhibit 1, "Initiating Events Screening Questions". The inspectors answered "No" to the questions in Exhibit 1 and determined this finding to have a very-low safety significance (Green). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Design Margin, for the licensee's failure to maintain equipment within design margins. Specifically, the licensee staff failed to ensure that metal removal performed on an ASME Code Class 1 component did not result in a condition where the minimum design wall thickness of the component was compromised, and therefore, failed to ensure design margin was maintained. [H.6]

Inspection Report# : [2016007 \(pdf\)](#)

Significance: G Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement System Operating Instructions to Maintain Control of Reactor Pressure Vessel Level

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on January 24, 2016, when an unplanned automatic reactor protection system (RPS) actuation occurred as a result of the licensee's failure to correctly implement the steps outlined in procedure SOI-C34, "Feedwater Control System," Section 4.2.12.c to balance inservice flow controller outputs. Specifically, while in the process of reducing power to allow for a drywell entry to determine the location of an unidentified leak into the drywell floor drain sump, the operators failed to control reactor pressure vessel water level during shifting of

feedwater pumps from a turbine-driven reactor feed pump to the motor-driven reactor feed pump, resulting in a RPS actuation initiated on reactor vessel water Level 8, shutting down the reactor. Following the reactor scram, the licensee took immediate actions to restore and maintain RPV water level in accordance with procedure ONI-C71-1, "Reactor Scram," Revision 20. The issue was entered into the licensee's corrective action program as CR 2016-01063.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it did not result in the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. Specifically, the licensee failed to provide adequate, procedural guidance on when to conduct the feedwater pump shift.

Inspection Report# : [2016001 \(pdf\)](#)

Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Control Welding and Inspection Activities to Maintain Reactor Coolant System Integrity

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," was self-revealed on January 24, 2016, for the licensee's failure to control welding and inspection activities during the replacement of the reactor recirculation loop 'A' pump discharge valve vent line during the 2015 refueling outage. When identified as the source of reactor boundary leakage in January 2016, the licensee determined that the weld did not meet the requirements on the design drawing and that the quality control (QC) inspection should have identified the non-conforming weld. The issue was entered into the licensee's corrective action program as CR 2016-01071. Corrective actions included installation of an alternative pipe and cap to replace the failed vent line appendage, plugging and capping of the reactor recirculation loop 'A' flow control valve vent line appendage and performed a weld build up on the reactor recirculation loop 'B' flow control valve vent appendage line.

The inspectors determined that the licensee's failure to control welding and inspection activities was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it was determined that after a reasonable assessment of degradation, the leak would not have exceeded the reactor coolant system leak rate for a small-break loss of coolant accident (LOCA) and the leak would not have affected other systems used to mitigate a LOCA (e.g., an interfacing system LOCA). This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, the licensee failed to provide additional precautions, controls, and oversight for the personnel performing the welding activities, inspection activities, and supervisory activities, such that the welder, QC inspector, and supervisor were able to complete a weld that met the requirements of the design drawing and to perform an adequate inspection of the weld to determine that it met the acceptance criteria established by the design drawing.

Inspection Report# : [2016001 \(pdf\)](#)

G**Significance:** Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Instructions to Completely Vent Reference Legs

A self-revealed finding and an associated NCV of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the licensee's failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality. Specifically, the licensee failed to incorporate instructions into procedures to fill and vent all portions of the reactor water level reference leg purge system. This issue has been entered the issue into the CAP as CR 2016-02716 to provide a process for the activities.

The failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality was a performance deficiency. The performance deficiency was more than minor because it was associated with the configuration control performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenged critical safety functions during shutdown as well as power operations and was therefore a finding. Specifically, gas left in the reactor water level instrument reference leg purge system during maintenance equipment alignment was known to have the potential to interfere with the proper operation of pressure and level indicators relied upon for safety functions, as documented in Generic Letter 93-03. The finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident (LOCA), cause a reactor trip, involve the complete or partial loss of a support system that contributes to the likelihood of, or caused, an initiating event and did not affect mitigation equipment. The inspectors determined this finding had a cross-cutting aspect of challenge the unknown in the human performance area where individuals stop when faced with uncertain conditions and risks are evaluated and managed before proceeding. Specifically, the technicians involved in the April 18, 2015, system recovery activities did not stop when faced with an uncertain condition, communicate with supervisors, nor consult system experts to resolve the condition prior to continuing work activities. Since this condition was not placed into the corrective action process at the time, no further consideration was given to venting the reference leg portion of the reactor water level reference leg purge system.

Inspection Report# : [2016008 \(pdf\)](#)**G****Significance:** Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Hardcard Development Failed to Follow Procedure Change Process

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to follow fleet procedure NOP-SS-3001, "Procedure Review and Approval," and to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation. Specifically, the licensee characterized the hardcard development and implementation as only an administrative change, and was thereby exempted from the fleet procedure review process for new procedures. The licensee entered this finding into the corrective action program (CAP) as condition report (CR) 2016-03033 and planned to perform a causal review to ensure that actions taken in response to information provided in operations administrative instruction, OAI-1703, "Hardcards," have received appropriate review under 10 CFR 50.59.

The inspectors determined that the failure to follow the licensee's fleet and site-specific procedures to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation was a performance deficiency. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, by not performing review and approval activities in accordance with established procedures, the licensee might unintentionally challenge the operators by

requiring equipment manipulation that impose unnecessary plant transients, which would result in unwarranted challenges to safety related equipment. Additionally, the performance deficiency was more than minor because it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations, and was therefore a finding. The finding was determined to be of very low safety significance because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined this finding had a cross-cutting aspect of conservative bias in the human performance area where individuals use decision making-practices that emphasize prudent choices over those that are simply allowable and a proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop. Specifically, when the licensee determined to develop the hardcard procedure as an administrative change, the decision precluded the opportunity for the licensee to properly evaluate that the procedure actions did not adversely impact existing station procedures and equipment.

Inspection Report# : [2016008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure that Systems, Structures, and Components Necessary to Achieve and Maintain Hot Shutdown Conditions were Free of Fire Damage without Repair Actions (Section 1R05.1b)

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specifications (TS) Section 5.4.1.a for the licensee's failure to perform fire watches in two fire areas for a non-functional fire barrier. Specifically, the licensee failed to perform fire watches as required by Section 16.D(1)a.(1) of Attachment 3 to procedure PAP-1910, "Fire Protection Program." The licensee entered the issue into their Corrective Action Program (CAP), and added the two fire areas to the fire watch list.

The inspectors determined that the performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, by failing to perform fire watches the licensee may not have been able to identify transient combustible materials that could have impacted the unprotected circuits associated with this deficiency in the event of a fire. This finding was of very low safety significance because it only impacted one train of equipment important to safety. This finding has a cross-cutting aspect in the area of Human Performance, Documentation because the licensee did not create and maintain complete, accurate, and up-to-date documentation. Specifically, when the licensee developed the fire watch list they did not include all impacted fire zones as listed in the initial impairment. [H.7]

Inspection Report# : [2015008 \(pdf\)](#)

Mitigating Systems

Significance: Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Implement a Periodic Replacement Program for FLEX Hoses

- Green. A finding of very low safety significance was identified by the inspectors for failing to establish a periodic replacement program for the high-temperature rated hoses used during a mitigating strategy for suppression pool cooling. Specifically, the licensee failed to create a periodic replacement program for high temperature FLEX hoses based on the vendor recommendation of a six year shelf-life or justify deviation from the recommendation. The licensee entered this issue into the corrective action program as CR-2016-09776 with an action to generate the

appropriate repetitive task for periodic replacement of the high-temperature rated hose. No violation of NRC requirements were identified.

This performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage), and is therefore a finding. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding had a cross-cutting aspect of Procedure Adherence in the area of Human Performance because the licensee failed to follow procedural guidance to replace hoses based on vendor recommendations. (H.8)

Inspection Report# : [2016009 \(pdf\)](#)

G

Significance: May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Document 50.59 Evaluation for Replacement of a Manual Action with an Automatic Action (Section 1R17.1.b)

The inspectors identified a Severity Level IV, NCV of Title 10 of the Code of Federal Regulations (CFR), Part 50.59, "Changes, Tests, and Experiments," having very low safety significance (Green) for failure to document the basis for performing a plant modification where a manual operator action was replaced with an automatic action. Specifically, the licensee did not evaluate whether adding a safety related function to a nonsafety-related component was within the licensing basis of the facility.

The inspectors determined that the failure to perform a 10 CFR 50.59 evaluation for Plant Modification 11-0794 was contrary to 10 CFR 50.59(d)(1) and was a performance deficiency. The performance deficiency was determined to be more-than-minor and a finding, because the finding impacted mitigating systems cornerstone attribute of Design Control and adversely affected the Cornerstone Objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, this plan modification added a Safety Related function to a Nonsafety-Related component and, therefore, impacted the availability, reliability, and capability of the Safety-Related Battery Room ventilation system and the Safety-Related Motor Control Center, Switchgear, and Miscellaneous Electrical Equipment Area ventilation system. In addition, the associated violation was determined to be more-than-minor because the inspectors could not reasonably determine that the changes would not have ultimately required NRC prior approval. The inspectors determined that finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process." Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Mitigating Systems cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, for the Mitigating Systems cornerstone. The inspectors answered "No" to question A.4 in Exhibit 2 – Mitigating System Screening Questions. Specifically, the inspectors determined the finding did not represent an actual loss of the Battery Room ventilation system or Motor Control Center, Switchgear, and Miscellaneous Electrical Equipment Area ventilation system because the automatic action had not been implemented at the time of the finding. Therefore, the inspectors determined the significance of this finding to be of very-low safety significance (Green). In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The inspectors determined the finding was associated with the cross-cutting aspect of Procedure Adherence in the area of Human Performance, because the licensee failed to follow the screening criteria in Attachment 2 of Procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines. [H.8]

Inspection Report# : [2016007 \(pdf\)](#)**G****Significance:** May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Use of Unapproved Standard for Site Flooding Modifications of Analysis (Section 1R17.2.b)

The inspectors identified a Severity Level IV, NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," having very-low safety significance (Green) for the licensee's failure to conclude that site flooding modifications and associated analysis included a standard that resulted in a departure from the method of evaluation as described in the Updated Final Safety Analysis Report. Specifically, the licensee used a new method for evaluation of design basis flooding at Perry Nuclear Power Plant that is different from the method described in the Updated Final Safety Analysis Report and not approved by the NRC.

The inspectors determined that the licensee's use of an unapproved methodology for site flooding modifications and associated analysis that constituted a departure from a method of evaluation was contrary to 10 CFR 50.59(c)(2)(8) and was a performance deficiency. Specifically, the licensee used a new method for evaluation of design basis flooding at Perry Nuclear Power Plant that is different from the method described in the Updated Final Safety Analysis Report and not approved by the NRC. The performance deficiency was determined to be more-than-minor, and a finding, because it affected the cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In addition, the associated violation was determined to be more-than-minor because the inspectors determined that there was a reasonable likelihood that the changes would have required prior NRC approval. The inspectors determined that finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process". Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Mitigating Systems cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, for the Mitigating Systems cornerstone. The inspectors answered "Yes" to question A.1 in Exhibit 2 – Mitigating Systems Screening Questions. Specifically, the inspectors determined the finding did not result in systems, structures, and components not being able to maintain their operability or functionality. Therefore, the inspectors determined the significance of this finding to be of very-low safety significance (Green). In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The inspectors determined that this finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Problem Identification, for the licensee's failure to identify issues completely, accurately, and in a timely manner. Specifically, the licensee's 50.59 review committee failed to accurately identify the methodology change concern in Evaluation 14-01234 during a review documented in CR2015-14025. [P.1]

Inspection Report# : [2016007 \(pdf\)](#)**G****Significance:** Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Take Actions to Prevent a Loss of Safety Function during Reactor Recirculation Pump Downshift

A finding of very low safety significance and an associated NCV of TS 5.4.1, "Procedures," was self-revealed on January 24, 2016, when a loss of safety system function occurred as a result of the operators failing to take steps to prevent all operable average power range monitors (APRMs) from becoming out of specification in the non-conservative direction after a recirculation pump shift to slow speed. Specifically, while in the process of reducing power to allow for a drywell entry at low power, the recirculation pumps were shifted and all operable APRMs went

out of specification low, which is the non-conservative direction. The operators immediately declared the APRMs inoperable and took actions to restore the operability of at least one APRM in each channel. The issue was entered into the licensee's CAP as CR 2016-01058.

The licensee's failure to take action to prevent all operable APRMs from going out of calibration low, despite understanding the cause, was determined to be more than minor and thus a finding, because it was associated with the Mitigating Systems cornerstone attribute of human performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not result in the loss of reactivity control systems beyond a single trip signal function and did not result in a mismanagement of reactivity by the operators. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for knowing that the APRMs would go out of calibration because of the pump shift but without regard for the inherent risk while expecting the successful outcome that at least one would stay in calibration without any consideration of potential actions that could have been taken to prevent the loss of safety function and reportable condition.

Inspection Report# : [2016001 \(pdf\)](#)

Significance: Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain Traceability of Safety Related Fuses

The inspectors identified a finding of very low safety significance and an associated NCV of Title 10 CFR 50, Appendix B, Criterion VIII, "Identification and Control of Materials, Parts, and Components," for the licensee's failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The licensee has entered this issue into the CAP as CR 2016-02048 and CR 2016-02258. Corrective actions being performed by the licensee include evaluating implementation of procedure

NOP-WM-4300 for documenting use of parts in safety related systems and issuing work orders to determine where the potentially defective fuses were installed in the Division 2 and 3 safety related buses for replacement.

The inspectors determined that the failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item was a performance deficiency. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, identification and control measures are designed to prevent the use of incorrect or defective materials, parts or components which could render safety systems inoperable. Additionally, the performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and was, therefore, a finding. The finding was determined to be of very low safety significance because the finding was not a deficiency affecting the design or qualification of a mitigating structure system or component, did not represent a loss of system safety function, did not represent an actual loss of function of a single train or two separate trains for greater than its allowed outage time, and did not represent an actual loss of safety function of one or more non-technical specifications trains of equipment during shutdown for equipment designated as high safety significant for greater than 24 hours. The inspectors determined this finding had a cross-cutting aspect of documentation in the human performance area where the organization creates and maintains complete, accurate and up-to-date documentation. Specifically, a review by the licensee of existing work orders that may have utilized the fuses did not clearly document if the fuses were installed, returned to the warehouse or scrapped.

Inspection Report# : [2016008 \(pdf\)](#)

Significance: Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Required 3 Hour Fire Barriers Were In-Place

The inspectors identified a finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), Fire Protection, for the licensee's failure to maintain a three-hour fire barriers as required by the Updated Safety Analysis Report (USAR). Specifically, the inspectors identified a through-wall hole, approximately two feet wide and two feet tall in the common wall between the Unit 2, Division 1 and Division 2, direct current (DC) switchgear rooms and another hole, approximately one foot wide and one foot tall between the Unit 2, Division 2 DC switchgear room and the outside hallway.

The two through-wall holes were determined to be a performance deficiency associated with compliance to the licensee's fire protection program because the walls are described in the USAR as three-hour fire barriers for the rooms in question. The performance deficiency was more than minor; and thus a finding, because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance through analysis of the issue as a fire confinement problem and the fact that the reactor would still be able to reach and maintain safe shutdown despite the deficiency. The inspectors identified no cross-cutting issues associated with this finding because the condition has existed since at least July 2011, and therefore, is not indicative of current plant performance.

Inspection Report# : [2015004 \(pdf\)](#)

Significance: Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement the System Operating Instruction to Restore RHR "B" to Service

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1, "Procedures," was self-revealed on November 4, 2015 when operators failed to follow procedures and caused an increase in level of the suppression pool. Specifically, during the process of recovering the "B" RHR system in accordance with system operating instruction SOI-E12, "Residual Heat Removal System," the operators failed to follow an "If/Then" statement and did not isolate the alternate keep-fill system prior to starting the RHR pump to sweep voids into the suppression pool. This resulted in the condensate transfer system remaining lined up to "B" RHR train and transfer of an estimated 15,000 gallons of condensate water to the suppression pool. The resultant increasing suppression pool level caused a suction swaps for both HPCS and RCIC to the suppression pool. The licensee took immediate actions to suspend the evolution, restored the suppression pool level to the middle of the acceptable band, and restored the suction sources for HPCS and RCIC to the condensate storage tank. A human performance event response investigation was conducted and the operating crew was remediated. The issue was entered into the licensee's CAP as

CR 2015-15089.

The operator's failure to follow the procedure was a performance deficiency that was determined to be more than minor; and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of

very low safety significance because it did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee's Maintenance Rule Program for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, problem resolution, because the licensee had not solved a similar issue in third quarter of 2015 that involved the same contributing factors of poor maintenance supervision, inadequate pre-job briefs and poor shift management oversight. [P.3]

Inspection Report# : [2015004 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Inspect Penetration Seals Within the Required Time Frequency (Section 1R05.2b)

The inspectors identified a finding of very low safety significance (Green), and associated NCV of license condition 2.C(6) for the licensee's failure to ensure that systems, structures, and components necessary to achieve and maintain hot shutdown conditions were free of fire damage. Specifically, the licensee did not ensure that circuits associated with the emergency closed cooling (ECC) heat exchanger 'A' temperature control valve 1P42-F665A were free of fire damage for a fire in the control room and instead relied on lifting leads and replacing fuses to take manual control of the valve. The licensee entered the issue into their CAP, and credited the existing repair activities in the procedure. The inspectors determined that the performance deficiency was more than minor because a fire in the control room could result in the licensee losing the ability to remotely control the ECC heat exchanger 'A' temperature control valve and needing to take manual control of the valve. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Adequate Guidance to Override Spurious CO2 Initiation Signal in the Diesel Generator Rooms (Section 1R05.6b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of license condition 2.C(6) for the licensee's failure to adequately implement and maintain surveillance procedures and work processes associated with fire barrier and penetration seal inspections. Specifically, the licensee failed to perform fire barrier penetration seal inspections for 42 penetration seals at least once per 15 years (plus an additional 25 percent grace period) as required by the Fire Protection Program. The licensee entered the issue into their CAP, and will inspect the accessible portions of the barriers and will perform a full inspection at the next available opportunity. The inspectors determined that the performance deficiency was more than minor because the licensee's failure to inspect the fire barrier penetrations could result in not identifying degraded seals which could affect their ability to prevent a fire from spreading from one fire area to another. The finding was of very low safety significance because the failure to inspect a portion of fire barrier penetration seals did not impact the plant's ability to reach and maintain safe shutdown. The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee improperly closed a notification to track the inspection of fire barrier penetrations without creating a work order. [H.5]

Inspection Report# : [2015008 \(pdf\)](#)

Significance: Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Fire Watches (Section 1R05.10b)

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of TS Section 5.4.1.a for the licensee's failure to have adequate procedural guidance in their fire response procedure. Specifically, Procedure ONI-P54, "Fire," Revision 19 did not list all the fire areas where a potential fire induced spurious carbon dioxide (CO₂) initiation in the emergency diesel generator (EDG) room could occur. The licensee entered this issue into their CAP, and established hourly fire watches for the affected areas.

The inspectors determined that the performance deficiency was more than minor because a fire in any of the affected fire zones could damage circuits for the nonsafety related CO₂ systems for the EDG rooms causing a potential spurious CO₂ initiation in the diesel rooms and affecting the operation of the ventilation fans and dampers in the diesel rooms. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance.

Inspection Report# : [2015008 \(pdf\)](#)

Barrier Integrity

Emergency Preparedness

G

Significance: Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Establish a Periodic Maintenance Program for Communications Equipment Associated with FLEX

- Green. A finding of very low safety significance was identified by the inspectors for failing to establish period tasks to check the operation of recently installed FLEX related communications equipment in accordance with the Perry Nuclear Power Plant FLEX Final Integrated Plan Report. The licensee entered this issue into the corrective action program as CR-2016-09746 and 2016-09747 to develop the appropriate periodic maintenance tasks.

The finding was determined to be more than minor because it was associated with the Emergency Preparedness Cornerstone Attribute of Facilities and Equipment which includes Maintenance Surveillance and Testing of Facilities, Equipment and Communications Systems. Specifically, communications equipment, particularly batteries, degrade over time and without periodic checks to verify functionality, the equipment might not be available for response to a potential accident. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding has a cross-cutting aspect in the area of Human Performance, Work Management because a task to create the activities was initiated, but the completion date was postponed well past the date at which the licensee declared compliance with mitigating systems orders. (H.5)

Inspection Report# : [2016009 \(pdf\)](#)

Occupational Radiation Safety

G**Significance:** G Dec 18, 2015

Identified By: NRC

Item Type: VIO Violation

Unqualified Radiation Protection Manager

Green. The inspectors identified a finding of very low safety significance, and an associated violation of Technical Specification (TS) 5.3.1 when an unqualified individual was designated and performed the duties of the Radiation Protection Manager since early 2015. Specifically, the individual did not have the required experience and background necessary to provide sound judgement for safe and successful operation of the plant. This designation occurred after an April 29, 2015 report documented an internal review by the licensee's Fleet Oversight group that concluded that the candidate did not meet qualifications of TS 5.3.1. The NRC determined that this violation did not meet the criteria to be treated as a Non-Cited Violation because this issue was not documented in the licensee's Corrective Action Program. In addition, the licensee's staff communicated to the inspector that no violation of TS had taken place.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the human performance attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the lack of experience and background necessary to provide sound judgement for the Radiation Protection Program affects the licensee's ability to control and limit radiation exposures. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was not an as-low-as-reasonably-achievable planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting aspect in the area of Human Performance, change management, because the licensee did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. (Section 4OA2) (H.3)

Inspection Report# : [2015010 \(pdf\)](#)

Public Radiation Safety

G**Significance:** G Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ODCM during Liquid Effluent Discharge

A finding of very low safety significance, and an associated NCV of Technical Specification (TS) 5.5.1 was identified by the NRC inspectors for the failure to follow Offsite Dose Calculation Manual (ODCM) requirements during the execution of a liquid effluent discharge. The license entered this event into their CAP as CR-2016-07572 and the individual was coached regarding procedure compliance.

The inspectors determined that the performance deficiency was more than minor because the issue impacted the program and process attribute of the Public Radiation Safety cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Specifically, on February 1, 2016, a liquid effluent discharge was performed with the radwaste to essential service water discharge monitor inoperable and without the required independent verification of release rate calculations. The finding was determined to be of very low safety significance (Green) because it was not a failure to implement the Effluent Program, nor did public dose exceed Appendix I or Title 10 of the Code of Federal Regulations (CFR), Part 20.1301(e) criteria. The inspectors

concluded that the finding had a cross-cutting aspect in the human performance area of procedure adherence because procedures for this task were not followed.

Inspection Report# : [2016002 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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Miscellaneous

Last modified : December 08, 2016

Perry 1

4Q/2016 Plant Inspection Findings

Initiating Events

Significance: G May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ASME Code Requirements for Repair on Code Class 1 Component (Section 4OA2.1)

A finding of very-low safety significance (Green) and associated NCV of 10 CFR 50.55a(g)(4) was identified by the inspectors for the licensee's failure to maintain the American Society of Mechanical Engineers (ASME) Code Class 1 component in accordance with ASME Code Section XI requirements. Specifically, the licensee failed to measure and document the method of measuring the cavity created after removal of indications on the reactor water clean-up line prior to return to service.

The inspectors determined that the licensee's failure to maintain the ASME Code Class 1 component in accordance with ASME Code Section XI requirements was a performance deficiency. This performance deficiency was found to be more-than-minor, and a finding, because the performance deficiency, if left uncorrected could become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have questioned the potential challenge to component functionality since the cavity measurements were not performed. This condition could potentially lead to the failure of the reactor water clean-up bottom head drain, which in turn, could lead to a potential loss of reactor coolant. The inspectors reviewed the finding using Attachment 0609.04, "Initial Characterization of Findings," Table 3 – SDP Appendix Router. The inspectors answered 'No' to the question in Section A of Table 3 and therefore the finding was evaluated using the SDP in accordance with IMC 0609, "The Significance Determination Process (SDP) for At-Power Operations," Appendix A, Exhibit 1, "Initiating Events Screening Questions". The inspectors answered "No" to the questions in Exhibit 1 and determined this finding to have a very-low safety significance (Green). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Design Margin, for the licensee's failure to maintain equipment within design margins. Specifically, the licensee staff failed to ensure that metal removal performed on an ASME Code Class 1 component did not result in a condition where the minimum design wall thickness of the component was compromised, and therefore, failed to ensure design margin was maintained. [H.6]

Inspection Report# : [2016007 \(pdf\)](#)

Significance: G Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Properly Implement System Operating Instructions to Maintain Control of Reactor Pressure Vessel Level

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 5.4.1., "Procedures," was self-revealed on January 24, 2016, when an unplanned automatic reactor protection system (RPS) actuation occurred as a result of the licensee's failure to correctly implement the steps outlined in procedure SOI-C34, "Feedwater Control System," Section 4.2.12.c to balance inservice flow controller outputs. Specifically, while in the process of reducing power to allow for a drywell entry to determine the location of an unidentified leak into the drywell floor drain sump, the operators failed to control reactor pressure vessel water level during shifting of

feedwater pumps from a turbine-driven reactor feed pump to the motor-driven reactor feed pump, resulting in a RPS actuation initiated on reactor vessel water Level 8, shutting down the reactor. Following the reactor scram, the licensee took immediate actions to restore and maintain RPV water level in accordance with procedure ONI-C71-1, "Reactor Scram," Revision 20. The issue was entered into the licensee's corrective action program as CR 2016-01063.

The licensee's failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it did not result in the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. Specifically, the licensee failed to provide adequate, procedural guidance on when to conduct the feedwater pump shift.

Inspection Report# : [2016001 \(pdf\)](#)

Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Control Welding and Inspection Activities to Maintain Reactor Coolant System Integrity

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," was self-revealed on January 24, 2016, for the licensee's failure to control welding and inspection activities during the replacement of the reactor recirculation loop 'A' pump discharge valve vent line during the 2015 refueling outage. When identified as the source of reactor boundary leakage in January 2016, the licensee determined that the weld did not meet the requirements on the design drawing and that the quality control (QC) inspection should have identified the non-conforming weld. The issue was entered into the licensee's corrective action program as CR 2016-01071. Corrective actions included installation of an alternative pipe and cap to replace the failed vent line appendage, plugging and capping of the reactor recirculation loop 'A' flow control valve vent line appendage and performed a weld build up on the reactor recirculation loop 'B' flow control valve vent appendage line.

The inspectors determined that the licensee's failure to control welding and inspection activities was a performance deficiency that was determined to be more than minor and thus a finding, because it was associated with the Initiating Events cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because it was determined that after a reasonable assessment of degradation, the leak would not have exceeded the reactor coolant system leak rate for a small-break loss of coolant accident (LOCA) and the leak would not have affected other systems used to mitigate a LOCA (e.g., an interfacing system LOCA). This finding has a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, the licensee failed to provide additional precautions, controls, and oversight for the personnel performing the welding activities, inspection activities, and supervisory activities, such that the welder, QC inspector, and supervisor were able to complete a weld that met the requirements of the design drawing and to perform an adequate inspection of the weld to determine that it met the acceptance criteria established by the design drawing.

Inspection Report# : [2016001 \(pdf\)](#)

G**Significance:** Mar 28, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Provide Instructions to Completely Vent Reference Legs

A self-revealed finding and an associated NCV of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the licensee's failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality. Specifically, the licensee failed to incorporate instructions into procedures to fill and vent all portions of the reactor water level reference leg purge system. This issue has been entered the issue into the CAP as CR 2016-02716 to provide a process for the activities.

The failure to prescribe instructions appropriate to the circumstance into procedures for an activity affecting quality was a performance deficiency. The performance deficiency was more than minor because it was associated with the configuration control performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenged critical safety functions during shutdown as well as power operations and was therefore a finding. Specifically, gas left in the reactor water level instrument reference leg purge system during maintenance equipment alignment was known to have the potential to interfere with the proper operation of pressure and level indicators relied upon for safety functions, as documented in Generic Letter 93-03. The finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident (LOCA), cause a reactor trip, involve the complete or partial loss of a support system that contributes to the likelihood of, or caused, an initiating event and did not affect mitigation equipment. The inspectors determined this finding had a cross-cutting aspect of challenge the unknown in the human performance area where individuals stop when faced with uncertain conditions and risks are evaluated and managed before proceeding. Specifically, the technicians involved in the April 18, 2015, system recovery activities did not stop when faced with an uncertain condition, communicate with supervisors, nor consult system experts to resolve the condition prior to continuing work activities. Since this condition was not placed into the corrective action process at the time, no further consideration was given to venting the reference leg portion of the reactor water level reference leg purge system.

Inspection Report# : [2016008 \(pdf\)](#)**G****Significance:** Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Hardcard Development Failed to Follow Procedure Change Process

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to follow fleet procedure NOP-SS-3001, "Procedure Review and Approval," and to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation. Specifically, the licensee characterized the hardcard development and implementation as only an administrative change, and was thereby exempted from the fleet procedure review process for new procedures. The licensee entered this finding into the corrective action program (CAP) as condition report (CR) 2016-03033 and planned to perform a causal review to ensure that actions taken in response to information provided in operations administrative instruction, OAI-1703, "Hardcards," have received appropriate review under 10 CFR 50.59.

The inspectors determined that the failure to follow the licensee's fleet and site-specific procedures to ensure that a newly developed hardcard was properly reviewed and approved prior to implementation was a performance deficiency. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, by not performing review and approval activities in accordance with established procedures, the licensee might unintentionally challenge the operators by

requiring equipment manipulation that impose unnecessary plant transients, which would result in unwarranted challenges to safety related equipment. Additionally, the performance deficiency was more than minor because it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations, and was therefore a finding. The finding was determined to be of very low safety significance because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined this finding had a cross-cutting aspect of conservative bias in the human performance area where individuals use decision making-practices that emphasize prudent choices over those that are simply allowable and a proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop. Specifically, when the licensee determined to develop the hardcard procedure as an administrative change, the decision precluded the opportunity for the licensee to properly evaluate that the procedure actions did not adversely impact existing station procedures and equipment.

Inspection Report# : [2016008 \(pdf\)](#)

Mitigating Systems

Significance:  Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Implement a Periodic Replacement Program for FLEX Hoses

- Green. A finding of very low safety significance was identified by the inspectors for failing to establish a periodic replacement program for the high-temperature rated hoses used during a mitigating strategy for suppression pool cooling. Specifically, the licensee failed to create a periodic replacement program for high temperature FLEX hoses based on the vendor recommendation of a six year shelf-life or justify deviation from the recommendation. The licensee entered this issue into the corrective action program as CR-2016-09776 with an action to generate the appropriate repetitive task for periodic replacement of the high-temperature rated hose. No violation of NRC requirements were identified.

This performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage), and is therefore a finding. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding had a cross-cutting aspect of Procedure Adherence in the area of Human Performance because the licensee failed to follow procedural guidance to replace hoses based on vendor recommendations. (H.8)

Inspection Report# : [2016009 \(pdf\)](#)

Significance:  May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Document 50.59 Evaluation for Replacement of a Manual Action with an Automatic Action (Section 1R17.1.b)

The inspectors identified a Severity Level IV, NCV of Title 10 of the Code of Federal Regulations (CFR), Part 50.59, "Changes, Tests, and Experiments," having very low safety significance (Green) for failure to document the basis for performing a plant modification where a manual operator action was replaced with an automatic action. Specifically, the licensee did not evaluate whether adding a safety related function to a nonsafety-related component was within the licensing basis of the facility.

The inspectors determined that the failure to perform a 10 CFR 50.59 evaluation for Plant Modification 11-0794 was contrary to 10 CFR 50.59(d)(1) and was a performance deficiency. The performance deficiency was determined to be more-than-minor and a finding, because the finding impacted mitigating systems cornerstone attribute of Design Control and adversely affected the Cornerstone Objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, this plan modification added a Safety Related function to a Nonsafety-Related component and, therefore, impacted the availability, reliability, and capability of the Safety-Related Battery Room ventilation system and the Safety-Related Motor Control Center, Switchgear, and Miscellaneous Electrical Equipment Area ventilation system. In addition, the associated violation was determined to be more-than-minor because the inspectors could not reasonably determine that the changes would not have ultimately required NRC prior approval. The inspectors determined that finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process." Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Mitigating Systems cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, for the Mitigating Systems cornerstone. The inspectors answered "No" to question A.4 in Exhibit 2 – Mitigating System Screening Questions. Specifically, the inspectors determined the finding did not represent an actual loss of the Battery Room ventilation system or Motor Control Center, Switchgear, and Miscellaneous Electrical Equipment Area ventilation system because the automatic action had not been implemented at the time of the finding. Therefore, the inspectors determined the significance of this finding to be of very-low safety significance (Green). In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The inspectors determined the finding was associated with the cross-cutting aspect of Procedure Adherence in the area of Human Performance, because the licensee failed to follow the screening criteria in Attachment 2 of Procedure NOBP-LP-4003A, FENOC 10 CFR 50.59 User Guidelines. [H.8]

Inspection Report# : [2016007](#) (*pdf*)

Significance: G May 27, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Use of Unapproved Standard for Site Flooding Modifications of Analysis (Section 1R17.2.b)

The inspectors identified a Severity Level IV, NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," having very-low safety significance (Green) for the licensee's failure to conclude that site flooding modifications and associated analysis included a standard that resulted in a departure from the method of evaluation as described in the Updated Final Safety Analysis Report. Specifically, the licensee used a new method for evaluation of design basis flooding at Perry Nuclear Power Plant that is different from the method described in the Updated Final Safety Analysis Report and not approved by the NRC.

The inspectors determined that the licensee's use of an unapproved methodology for site flooding modifications and associated analysis that constituted a departure from a method of evaluation was contrary to 10 CFR 50.59(c)(2)(8) and was a performance deficiency. Specifically, the licensee used a new method for evaluation of design basis flooding at Perry Nuclear Power Plant that is different from the method described in the Updated Final Safety Analysis Report and not approved by the NRC. The performance deficiency was determined to be more-than-minor, and a finding, because it affected the cornerstone attribute of protection against external factors and adversely affected

the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In addition, the associated violation was determined to be more-than-minor because the inspectors determined that there was a reasonable likelihood that the changes would have required prior NRC approval. The inspectors determined that finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process". Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Mitigating Systems cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, for the Mitigating Systems cornerstone. The inspectors answered "Yes" to question A.1 in Exhibit 2 – Mitigating Systems Screening Questions. Specifically, the inspectors determined the finding did not result in systems, structures, and components not being able to maintain their operability or functionality. Therefore, the inspectors determined the significance of this finding to be of very-low safety significance (Green). In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The inspectors determined that this finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Problem Identification, for the licensee's failure to identify issues completely, accurately, and in a timely manner. Specifically, the licensee's 50.59 review committee failed to accurately identify the methodology change concern in Evaluation 14-01234 during a review documented in CR2015-14025. [P.1]

Inspection Report# : [2016007 \(pdf\)](#)

G

Significance: Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Take Actions to Prevent a Loss of Safety Function during Reactor Recirculation Pump Downshift

A finding of very low safety significance and an associated NCV of TS 5.4.1, "Procedures," was self-revealed on January 24, 2016, when a loss of safety system function occurred as a result of the operators failing to take steps to prevent all operable average power range monitors (APRMs) from becoming out of specification in the non-conservative direction after a recirculation pump shift to slow speed. Specifically, while in the process of reducing power to allow for a drywell entry at low power, the recirculation pumps were shifted and all operable APRMs went out of specification low, which is the non-conservative direction. The operators immediately declared the APRMs inoperable and took actions to restore the operability of at least one APRM in each channel. The issue was entered into the licensee's CAP as CR 2016-01058.

The licensee's failure to take action to prevent all operable APRMs from going out of calibration low, despite understanding the cause, was determined to be more than minor and thus a finding, because it was associated with the Mitigating Systems cornerstone attribute of human performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not result in the loss of reactivity control systems beyond a single trip signal function and did not result in a mismanagement of reactivity by the operators. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for knowing that the APRMs would go out of calibration because of the pump shift but without regard for the inherent risk while expecting the successful outcome that at least one would stay in calibration without any consideration of potential actions that could have been taken to prevent the loss of safety function and reportable condition.

Inspection Report# : [2016001 \(pdf\)](#)

G

Significance: Mar 28, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain Traceability of Safety Related Fuses

The inspectors identified a finding of very low safety significance and an associated NCV of Title 10 CFR 50, Appendix B, Criterion VIII, "Identification and Control of Materials, Parts, and Components," for the licensee's failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The licensee has entered this issue into the CAP as CR 2016-02048 and CR 2016-02258. Corrective actions being performed by the licensee include evaluating implementation of procedure

NOP-WM-4300 for documenting use of parts in safety related systems and issuing work orders to determine where the potentially defective fuses were installed in the Division 2 and 3 safety related buses for replacement.

The inspectors determined that the failure to assure that identification of items was maintained by appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item was a performance deficiency. Specifically, the licensee failed to maintain traceability of safety related fuses installed in safety related systems. The performance deficiency was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, identification and control measures are designed to prevent the use of incorrect or defective materials, parts or components which could render safety systems inoperable. Additionally, the performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and was, therefore, a finding. The finding was determined to be of very low safety significance because the finding was not a deficiency affecting the design or qualification of a mitigating structure system or component, did not represent a loss of system safety function, did not represent an actual loss of function of a single train or two separate trains for greater than its allowed outage time, and did not represent an actual loss of safety function of one or more non-technical specifications trains of equipment during shutdown for equipment designated as high safety significant for greater than 24 hours. The inspectors determined this finding had a cross-cutting aspect of documentation in the human performance area where the organization creates and maintains complete, accurate and up-to-date documentation. Specifically, a review by the licensee of existing work orders that may have utilized the fuses did not clearly document if the fuses were installed, returned to the warehouse or scrapped.

Inspection Report# : [2016008 \(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Significance: G Aug 12, 2016
Identified By: NRC
Item Type: FIN Finding
Failure to Establish a Periodic Maintenance Program for Communications Equipment Associated with FLEX
• Green. A finding of very low safety significance was identified by the inspectors for failing to establish period tasks to check the operation of recently installed FLEX related communications equipment in accordance with the Perry Nuclear Power Plant FLEX Final Integrated Plan Report. The licensee entered this issue into the corrective action program as CR-2016-09746 and 2016-09747 to develop the appropriate periodic maintenance tasks.

The finding was determined to be more than minor because it was associated with the Emergency Preparedness Cornerstone Attribute of Facilities and Equipment which includes Maintenance Surveillance and Testing of Facilities, Equipment and Communications Systems. Specifically, communications equipment, particularly batteries, degrade over time and without periodic checks to verify functionality, the equipment might not be available for response to a potential accident. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding has a cross-cutting aspect in the area of Human Performance, Work Management because a task to create the activities was initiated, but the completion date was postponed well past the date at which the licensee declared compliance with mitigating systems orders. (H.5)

Inspection Report# : [2016009 \(pdf\)](#)

Occupational Radiation Safety

Significance: Dec 18, 2015

Identified By: NRC

Item Type: VIO Violation

Unqualified Radiation Protection Manager

Green. The inspectors identified a finding of very low safety significance, and an associated violation of Technical Specification (TS) 5.3.1 when an unqualified individual was designated and performed the duties of the Radiation Protection Manager since early 2015. Specifically, the individual did not have the required experience and background necessary to provide sound judgement for safe and successful operation of the plant. This designation occurred after an April 29, 2015 report documented an internal review by the licensee's Fleet Oversight group that concluded that the candidate did not meet qualifications of TS 5.3.1. The NRC determined that this violation did not meet the criteria to be treated as a Non-Cited Violation because this issue was not documented in the licensee's Corrective Action Program. In addition, the licensee's staff communicated to the inspector that no violation of TS had taken place.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the human performance attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the lack of experience and background necessary to provide sound judgement for the Radiation Protection Program affects the licensee's ability to control and limit radiation exposures. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was not an as-low-as-reasonably-achievable planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting aspect in the area of Human Performance, change management, because the licensee did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. (Section 4OA2) (H.3)

Inspection Report# : [2015010 \(pdf\)](#)

Public Radiation Safety

G**Significance:** Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ODCM during Liquid Effluent Discharge

A finding of very low safety significance, and an associated NCV of Technical Specification (TS) 5.5.1 was identified by the NRC inspectors for the failure to follow Offsite Dose Calculation Manual (ODCM) requirements during the execution of a liquid effluent discharge. The license entered this event into their CAP as CR-2016-07572 and the individual was coached regarding procedure compliance.

The inspectors determined that the performance deficiency was more than minor because the issue impacted the program and process attribute of the Public Radiation Safety cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Specifically, on February 1, 2016, a liquid effluent discharge was performed with the radwaste to essential service water discharge monitor inoperable and without the required independent verification of release rate calculations. The finding was determined to be of very low safety significance (Green) because it was not a failure to implement the Effluent Program, nor did public dose exceed Appendix I or Title 10 of the Code of Federal Regulations (CFR), Part 20.1301(e) criteria. The inspectors concluded that the finding had a cross-cutting aspect in the human performance area of procedure adherence because procedures for this task were not followed.

Inspection Report# : [2016002 \(pdf\)](#)

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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Miscellaneous

Last modified : February 01, 2017



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Perry 1 – Quarterly Plant Inspection Findings

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- Public Radiation Safety
- Security

Initiating Events

G

Significance: Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

RCS Pressure Boundary Leakage Operation Prohibited by TSs

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 3.4.5, "RCS Operational Leakage," was self-revealed when the licensee operated with reactor coolant system (RCS) pressure boundary leakage as a result of the failure of the weld connecting the root appendage of the vent line on the recirculation loop 'A' discharge valve, between January 19, 2016, and January 24, 2016, which is a condition prohibited by TS. The licensee entered this issue into the Corrective Action Program (CAP) as Condition Report (CR) 2016-01071 and performed a significant condition adverse to quality root cause evaluation due to a principal safety barrier being seriously degraded, replaced the vent line appendage on the recirculation loop 'A' discharge valve with a more robust pipe and cap, and developed plans to replace ten additional vent and drain line appendages on the reactor recirculation loops prior to the end of the 1R17 refueling outage in 2019.

The inspectors determined that the licensee's operation with RCS pressure boundary leakage, a condition prohibited by TSs, was a performance deficiency requiring evaluation. The inspectors determined that the finding was more than minor because it adversely impacted the Initiating Events cornerstone attribute of equipment performance-barrier integrity, and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined this finding was of very low safety significance because the leak would not have exceeded the RCS leak rate for a small loss-of-coolant accident (LOCA) and would not have likely affected other systems used to mitigate a LOCA resulting in a total loss of their function. The inspectors concluded that this finding had no additional cross-cutting aspects than what was discussed in Inspection Report 0500440/2016001.

Inspection Report# : 2016004 (*pdf*)

Mitigating Systems

Significance: TBD Apr 27, 2017

Identified By: NRC

Item Type: AV Apparent Violation

Division 2 Diesel Generator Failure to Start due to a Failed Diode in the 125 VDC Control Power Circuit

The inspectors identified a finding preliminarily determined to be of low to moderate safety significance (White), and an associated apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Criterion III, "Design Control," for the licensee's failure to implement measures for the selection and review for suitability of application of voltage suppression diodes installed in the control circuitry for the Division 2 Standby Diesel Generator, which was a component subject to the requirements of 10 CFR Part 50, Appendix B. Specifically, Engineering Change Package 04-00049 failed to consider the effects of a shorted diode on the control circuitry for the Division 2 Standby Diesel Generator, and instead, introduced new components (diodes) into the control circuitry that resulted in the eventual failure of this safety-related equipment. This rendered the standby diesel generator inoperable and unable to start for longer than its technical specification allowed outage time, which was a violation of Technical Specification 3.8.1, "AC Sources-Operating." The licensee documented the issue in CR 2016-13183, and subsequently replaced the failed component and then modified circuitry to remove the replacement diode and the remaining diodes from similar components.

The inspectors determined that the licensee's failure to evaluate the effects of voltage suppression diode failure on the Standby Diesel Generator control circuit was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion III and a performance deficiency which was within the licensee's ability to foresee and prevent. The inspectors determined that the performance deficiency was of more than minor significance

because it was associated with the design control attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the design of the Division 2 Standby Diesel Generator control circuit resulted in the inoperability and unavailability of the Division 2 Standby Diesel Generator from April 2, 2015, to November 8, 2016, when the failed diode was replaced. A Significance and Enforcement Review Panel, using IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," dated June 19, 2012, preliminarily determined the finding to be of low-to-moderate safety significance. The inspectors did not identify any cross-cutting aspects associated with this finding because the condition had existed since at least 2007, when the diodes were originally installed in the DC control power circuits, and therefore, was not indicative of current plant performance.

Inspection Report# : 2017009 (*pdf*)

G

Significance: Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement Procedures for Combating a Loss of Shutdown Cooling

A finding of very-low safety significance and associated NCV of TS 5.4, "Procedures," was identified by the inspectors for the failure to implement procedures for combating a loss of shutdown cooling (SDC). Specifically, the licensee failed to implement its procedure for combating a loss of SDC resulting from emergency service water (ESW) inoperability and during high decay heat load. This finding was entered into the licensee's Corrective Action Program to perform analyses for various conditions to identify available alternate methods of decay heat removal and provide associated procedural guidance.

The performance deficiency was determined to be more-than-minor because it was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of

mitigating systems to respond to initiating events to prevent undesirable consequences. The finding screened as very-low safety significance (Green) because it did not impact the operability or Probabilistic Risk Assessment functionality of any mitigating structures, systems, and components. The inspectors did not identify a cross-cutting aspect associated with this finding because it did not reflect current performance due to the age of the performance deficiency.

Inspection Report# : 2017001 (*pdf*)

G

Significance: G Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

ECC 'B' Heat Exchanger Flow Root Valves Out of Position

A finding of very-low safety significance and associated NCV of TS 5.4.1, "Procedures," was self-revealed for the licensee's failure to follow valve lineup procedure restoration requirements after an emergency service water (ESW) pump 'B' and valve operability test. Specifically, incorrect valve manipulations of the root valves for 1P42R043B and 1P42R043A flow indicators caused the emergency closed cooling (ECC) heat exchanger B flow to read zero with flow through the heat exchanger. The incorrect flow indication rendered the remote shutdown panel inoperable. The licensee subsequently re-positioned the root valves, 1P42R043B and 1P42R043A, and restored the remote shutdown panel to operable. The licensee entered this issue into the CAP as CR 2016-12935.

The inspectors determined that the performance deficiency for failure to follow procedure was more than minor and thus a finding because it was associated with the Mitigating Systems cornerstone attribute of human performance. The performance deficiency adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding has a cross-cutting aspect in the area of human performance, avoid complacency because the licensee failed to ensure that individuals follow processes, procedures, and work instructions. Specifically the individual performing the surveillance did not utilize all the required human performance tools to prevent the error [H.12].

Inspection Report# : 2016004 (*pdf*)

G

Significance: G Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Modifications to Underdrain and Gravity Discharge System Manhole Covers Without a 10 CFR 50.59 Safety Evaluation

The inspectors identified a Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Test, and Experiments," and an associated finding, for the licensee's failure to perform a written evaluation which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee made a change pursuant to 10 CFR 50.59(c) with the installation of grated manhole covers, replacing the rubber gasket, watertight manhole covers for the underdrain and gravity discharge systems and did not provide a basis for the determination that this change would not result in a more than a minimal increase in the likelihood of occurrence of a malfunction of a system structure or component important to safety.. The licensee entered this issue into the CAP as CR 2016-11864 and performed a prompt operability determination to show that the underdrain and gravity drain systems remained functional while the engineering change package was developed to support the change and bring the underdrain and gravity discharge systems into compliance with the design basis.

The performance deficiency was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and adversely affected the

cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Per IMC 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process for Findings at Power," the finding was screened against the Mitigating Systems Screening Questions and determined to be of very low safety significance (Green) because the finding did not cause the underdrain and gravity discharge systems to become inoperable or non-functional.

Traditional enforcement applied to this finding because it involved a violation that impacted the regulatory process. The inspectors determined it to be of Severity Level IV because it resulted in a condition evaluated by the SDP as having very low safety significance (Enforcement Policy example 6.1.d.2). The inspectors determined that the finding had a cross-cutting aspect in the area of human performance, procedure adherence, in that individuals did not follow processes, procedures, and work instructions. Specifically, a design engineer authorized the permanent modification to be made without the required 50.59 evaluation being completed [H.8].

Inspection Report# : 2016004 (*pdf*)

Significance: N/A Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Notify the NRC Within Eight Hours of a Non-emergency Event that Could Have Prevented the Fulfillment of a Safety Function

The inspectors identified a Severity Level IV NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.72(b) (3)(v)(A) and (D), for the licensee's failure to report an event or condition that could have prevented the fulfillment of a safety function to the NRC within eight hours. The licensee's evaluation of this condition, where both trains of the standby liquid control (SLC) system had been inoperable simultaneously, determined that it was not a reportable event. However, the inspectors determined that as described in NUREG 1022, "Event Reporting Guidelines 50.72 and 50.73," Revision 3, Section 3.2.7, the licensee had failed to make a non-emergency eight hour report as required by 10 CFR 50.72(b)(3)(v)(A) and (D). The licensee submitted the eight-hour report on December 30, 2016, and entered this issue into the corrective action program (CAP) as CR 2017-00098.

The failure to make an applicable non-emergency eight-hour event notification report within the required time frame was determined to be a performance deficiency. The inspectors determined that traditional enforcement was applicable to this issue because it impacted the NRC's regulatory process. In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d.9 of the NRC Enforcement Policy, this violation was screened as a Severity Level IV violation that was more than minor. In accordance with IMC 0612, because this violation involved traditional enforcement and does not have an underlying technical violation that would be considered more-than-minor, a cross-cutting aspect was not assigned to this violation.

Inspection Report# : 2016004 (*pdf*)

G

Significance: G Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Implement a Periodic Replacement Program for FLEX Hoses

Green. A finding of very low safety significance was identified by the inspectors for failing to establish a periodic replacement program for the high-temperature rated hoses used during a mitigating strategy for suppression pool cooling. Specifically, the licensee failed to create a periodic replacement program for high temperature FLEX hoses based on the vendor recommendation of a six year shelf-life or justify deviation from the recommendation. The licensee entered this issue into the corrective action program as CR-2016-09776 with an action to generate the

appropriate repetitive task for periodic replacement of the high-temperature rated hose. No violation of NRC requirements were identified.

This performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage), and is therefore a finding. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding had a cross-cutting aspect of Procedure Adherence in the area of Human Performance because the licensee failed to follow procedural guidance to replace hoses based on vendor recommendations. (H.8)

Inspection Report# : 2016009 (*pdf*)

Barrier Integrity Emergency Preparedness

G

Significance: Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Establish a Periodic Maintenance Program for Communications Equipment Associated with FLEX

Green. A finding of very low safety significance was identified by the inspectors for failing to establish period tasks to check the operation of recently installed FLEX related communications equipment in accordance with the Perry Nuclear Power Plant FLEX Final Integrated Plan Report. The licensee entered this issue into the corrective action program as CR-2016-09746 and 2016-09747 to develop the appropriate periodic maintenance tasks.

The finding was determined to be more than minor because it was associated with the Emergency Preparedness Cornerstone Attribute of Facilities and Equipment which includes Maintenance Surveillance and Testing of Facilities, Equipment and Communications Systems. Specifically, communications equipment, particularly batteries, degrade over time and without periodic checks to verify functionality, the equipment might not be available for response to a potential accident. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding has a cross-cutting aspect in the area of Human Performance, Work Management because a task to create the activities was initiated, but the completion date was postponed well past the date at which the licensee declared compliance with mitigating systems orders. (H.5)

Inspection Report# : 2016009 (*pdf*)

Occupational Radiation Safety Public Radiation Safety Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security

inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : August 03, 2017

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Perry 1 – Quarterly Plant Inspection Findings

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Initiating Events

G

Significance: Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

RCS Pressure Boundary Leakage Operation Prohibited by TSs

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 3.4.5, "RCS Operational Leakage," was self-revealed when the licensee operated with reactor coolant system (RCS) pressure boundary leakage as a result of the failure of the weld connecting the root appendage of the vent line on the recirculation loop 'A' discharge valve, between January 19, 2016, and January 24, 2016, which is a condition prohibited by TS. The licensee entered this issue into the Corrective Action Program (CAP) as Condition Report (CR) 2016-01071 and performed a significant condition adverse to quality root cause evaluation due to a principal safety barrier being seriously degraded, replaced the vent line appendage on the recirculation loop 'A' discharge valve with a more robust pipe and cap, and developed plans to replace ten additional vent and drain line appendages on the reactor recirculation loops prior to the end of the 1R17 refueling outage in 2019.

The inspectors determined that the licensee's operation with RCS pressure boundary leakage, a condition prohibited by TSs, was a performance deficiency requiring evaluation. The inspectors determined that the finding was more than minor because it adversely impacted the Initiating Events cornerstone attribute of equipment performance-barrier integrity, and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined this finding was of very low safety significance because the leak would not have exceeded the RCS leak rate for a small loss-of-coolant accident (LOCA) and would not have likely affected other systems used to mitigate a LOCA resulting in a total loss of their function. The inspectors concluded that this finding had no additional cross-cutting aspects than what was discussed in Inspection Report 0500440/2016001.

Inspection Report# : 2016004 (*pdf*)

Mitigating Systems

Significance: TBD Apr 27, 2017

Identified By: NRC

Item Type: AV Apparent Violation

Division 2 Diesel Generator Failure to Start due to a Failed Diode in the 125 VDC Control Power Circuit

The inspectors identified a finding preliminarily determined to be of low to moderate safety significance (White), and an associated apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Criterion III, "Design Control," for the licensee's failure to implement measures for the selection and review for suitability of application of voltage suppression diodes installed in the control circuitry for the Division 2 Standby Diesel Generator, which was a component subject to the requirements of 10 CFR Part 50, Appendix B. Specifically, Engineering Change Package 04-00049 failed to consider the effects of a shorted diode on the control circuitry for the Division 2 Standby Diesel Generator, and instead, introduced new components (diodes) into the control circuitry that resulted in the eventual failure of this safety-related equipment. This rendered the standby diesel generator inoperable and unable to start for longer than its technical specification allowed outage time, which was a violation of Technical Specification 3.8.1, "AC Sources-Operating." The licensee documented the issue in CR 2016-13183, and subsequently replaced the failed component and then modified circuitry to remove the replacement diode and the remaining diodes from similar components.

The inspectors determined that the licensee's failure to evaluate the effects of voltage suppression diode failure on the Standby Diesel Generator control circuit was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion III and a performance deficiency which was within the licensee's ability to foresee and prevent. The inspectors determined that the performance deficiency was of more than minor significance

because it was associated with the design control attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the design of the Division 2 Standby Diesel Generator control circuit resulted in the inoperability and unavailability of the Division 2 Standby Diesel Generator from April 2, 2015, to November 8, 2016, when the failed diode was replaced. A Significance and Enforcement Review Panel, using IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," dated June 19, 2012, preliminarily determined the finding to be of low-to-moderate safety significance. The inspectors did not identify any cross-cutting aspects associated with this finding because the condition had existed since at least 2007, when the diodes were originally installed in the DC control power circuits, and therefore, was not indicative of current plant performance.

Inspection Report# : 2017009 (*pdf*)

Significance: Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement Procedures for Combating a Loss of Shutdown Cooling

A finding of very-low safety significance and associated NCV of TS 5.4, "Procedures," was identified by the inspectors for the failure to implement procedures for combating a loss of shutdown cooling (SDC). Specifically, the licensee failed to implement its procedure for combating a loss of SDC resulting from emergency service water (ESW) inoperability and during high decay heat load. This finding was entered into the licensee's Corrective Action Program to perform analyses for various conditions to identify available alternate methods of decay heat removal and provide associated procedural guidance.

The performance deficiency was determined to be more-than-minor because it was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of

mitigating systems to respond to initiating events to prevent undesirable consequences. The finding screened as very-low safety significance (Green) because it did not impact the operability or Probabilistic Risk Assessment functionality of any mitigating structures, systems, and components. The inspectors did not identify a cross-cutting aspect associated with this finding because it did not reflect current performance due to the age of the performance deficiency.

Inspection Report# : 2017001 (*pdf*)

G

Significance: Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

ECC 'B' Heat Exchanger Flow Root Valves Out of Position

A finding of very-low safety significance and associated NCV of TS 5.4.1, "Procedures," was self-revealed for the licensee's failure to follow valve lineup procedure restoration requirements after an emergency service water (ESW) pump 'B' and valve operability test. Specifically, incorrect valve manipulations of the root valves for 1P42R043B and 1P42R043A flow indicators caused the emergency closed cooling (ECC) heat exchanger B flow to read zero with flow through the heat exchanger. The incorrect flow indication rendered the remote shutdown panel inoperable. The licensee subsequently re-positioned the root valves, 1P42R043B and 1P42R043A, and restored the remote shutdown panel to operable. The licensee entered this issue into the CAP as CR 2016-12935.

The inspectors determined that the performance deficiency for failure to follow procedure was more than minor and thus a finding because it was associated with the Mitigating Systems cornerstone attribute of human performance. The performance deficiency adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding has a cross-cutting aspect in the area of human performance, avoid complacency because the licensee failed to ensure that individuals follow processes, procedures, and work instructions. Specifically the individual performing the surveillance did not utilize all the required human performance tools to prevent the error [H.12].

Inspection Report# : 2016004 (*pdf*)

G

Significance: Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Modifications to Underdrain and Gravity Discharge System Manhole Covers Without a 10 CFR 50.59 Safety Evaluation

The inspectors identified a Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Test, and Experiments," and an associated finding, for the licensee's failure to perform a written evaluation which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee made a change pursuant to 10 CFR 50.59(c) with the installation of grated manhole covers, replacing the rubber gasket, watertight manhole covers for the underdrain and gravity discharge systems and did not provide a basis for the determination that this change would not result in a more than a minimal increase in the likelihood of occurrence of a malfunction of a system structure or component important to safety.. The licensee entered this issue into the CAP as CR 2016-11864 and performed a prompt operability determination to show that the underdrain and gravity drain systems remained functional while the engineering change package was developed to support the change and bring the underdrain and gravity discharge systems into compliance with the design basis.

The performance deficiency was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and adversely affected the

cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Per IMC 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process for Findings at Power," the finding was screened against the Mitigating Systems Screening Questions and determined to be of very low safety significance (Green) because the finding did not cause the underdrain and gravity discharge systems to become inoperable or non-functional.

Traditional enforcement applied to this finding because it involved a violation that impacted the regulatory process. The inspectors determined it to be of Severity Level IV because it resulted in a condition evaluated by the SDP as having very low safety significance (Enforcement Policy example 6.1.d.2). The inspectors determined that the finding had a cross-cutting aspect in the area of human performance, procedure adherence, in that individuals did not follow processes, procedures, and work instructions. Specifically, a design engineer authorized the permanent modification to be made without the required 50.59 evaluation being completed [H.8].

Inspection Report# : 2016004 (*pdf*)

Significance: N/A Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Notify the NRC Within Eight Hours of a Non-emergency Event that Could Have Prevented the Fulfillment of a Safety Function

The inspectors identified a Severity Level IV NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.72(b) (3)(v)(A) and (D), for the licensee's failure to report an event or condition that could have prevented the fulfillment of a safety function to the NRC within eight hours. The licensee's evaluation of this condition, where both trains of the standby liquid control (SLC) system had been inoperable simultaneously, determined that it was not a reportable event. However, the inspectors determined that as described in NUREG 1022, "Event Reporting Guidelines 50.72 and 50.73," Revision 3, Section 3.2.7, the licensee had failed to make a non-emergency eight hour report as required by 10 CFR 50.72(b)(3)(v)(A) and (D). The licensee submitted the eight-hour report on December 30, 2016, and entered this issue into the corrective action program (CAP) as CR 2017-00098.

The failure to make an applicable non-emergency eight-hour event notification report within the required time frame was determined to be a performance deficiency. The inspectors determined that traditional enforcement was applicable to this issue because it impacted the NRC's regulatory process. In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d.9 of the NRC Enforcement Policy, this violation was screened as a Severity Level IV violation that was more than minor. In accordance with IMC 0612, because this violation involved traditional enforcement and does not have an underlying technical violation that would be considered more-than-minor, a cross-cutting aspect was not assigned to this violation.

Inspection Report# : 2016004 (*pdf*)

G

Significance: G Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Implement a Periodic Replacement Program for FLEX Hoses

Green. A finding of very low safety significance was identified by the inspectors for failing to establish a periodic replacement program for the high-temperature rated hoses used during a mitigating strategy for suppression pool cooling. Specifically, the licensee failed to create a periodic replacement program for high temperature FLEX hoses based on the vendor recommendation of a six year shelf-life or justify deviation from the recommendation. The licensee entered this issue into the corrective action program as CR-2016-09776 with an action to generate the

appropriate repetitive task for periodic replacement of the high-temperature rated hose. No violation of NRC requirements were identified.

This performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage), and is therefore a finding. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding had a cross-cutting aspect of Procedure Adherence in the area of Human Performance because the licensee failed to follow procedural guidance to replace hoses based on vendor recommendations. (H.8)

Inspection Report# : 2016009 (*pdf*)

Barrier Integrity Emergency Preparedness

G

Significance: Aug 12, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Establish a Periodic Maintenance Program for Communications Equipment Associated with FLEX

Green. A finding of very low safety significance was identified by the inspectors for failing to establish period tasks to check the operation of recently installed FLEX related communications equipment in accordance with the Perry Nuclear Power Plant FLEX Final Integrated Plan Report. The licensee entered this issue into the corrective action program as CR-2016-09746 and 2016-09747 to develop the appropriate periodic maintenance tasks.

The finding was determined to be more than minor because it was associated with the Emergency Preparedness Cornerstone Attribute of Facilities and Equipment which includes Maintenance Surveillance and Testing of Facilities, Equipment and Communications Systems. Specifically, communications equipment, particularly batteries, degrade over time and without periodic checks to verify functionality, the equipment might not be available for response to a potential accident. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," appendix M, "Significance Determination Process using Qualitative Criteria," informed by draft appendix O, "Significance Determination Process for Mitigating Strategies and Spent Fuel Pool Instrumentation (Orders EA-12-049 and EA-12-051)." The finding screened as very low safety significance, Green, because the inspectors answered no to all Appendix O questions. This finding has a cross-cutting aspect in the area of Human Performance, Work Management because a task to create the activities was initiated, but the completion date was postponed well past the date at which the licensee declared compliance with mitigating systems orders. (H.5)

Inspection Report# : 2016009 (*pdf*)

Occupational Radiation Safety Public Radiation Safety Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security

inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : September 05, 2017

Page Last Reviewed/Updated Wednesday, June 07, 2017



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Perry 1 – Quarterly Plant Inspection Findings

3Q/2017 – Plant Inspection Findings

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Initiating Events

G

Significance: Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

RCS Pressure Boundary Leakage Operation Prohibited by TSs

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification (TS) 3.4.5, "RCS Operational Leakage," was self-revealed when the licensee operated with reactor coolant system (RCS) pressure boundary leakage as a result of the failure of the weld connecting the root appendage of the vent line on the recirculation loop 'A' discharge valve, between January 19, 2016, and January 24, 2016, which is a condition prohibited by TS. The licensee entered this issue into the Corrective Action Program (CAP) as Condition Report (CR) 2016-01071 and performed a significant condition adverse to quality root cause evaluation due to a principal safety barrier being seriously degraded, replaced the vent line appendage on the recirculation loop 'A' discharge valve with a more robust pipe and cap, and developed plans to replace ten additional vent and drain line appendages on the reactor recirculation loops prior to the end of the 1R17 refueling outage in 2019.

The inspectors determined that the licensee's operation with RCS pressure boundary leakage, a condition prohibited by TSs, was a performance deficiency requiring evaluation. The inspectors determined that the finding was more than minor because it adversely impacted the Initiating Events cornerstone attribute of equipment performance-barrier integrity, and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined this finding was of very low safety significance because the leak would not have exceeded the RCS leak rate for a small loss-of-coolant accident (LOCA) and would not have likely affected other systems used to mitigate a LOCA resulting in a total loss of their function. The inspectors concluded that this finding had no additional cross-cutting aspects than what was discussed in Inspection Report 0500440/2016001.

Inspection Report# : 2016004 (*pdf*)

Mitigating Systems

W

Significance: Apr 27, 2017

Identified By: NRC

Item Type: TE Traditional Enforcement w/o associated F

Division 2 Diesel Generator Failure to Start due to a Failed Diode in the 125 VDC Control Power Cir

The inspectors identified a finding preliminarily determined to be of low to moderate safety significance (White), and an associated apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Criterion III, 'Design Control,' for the licensees failure to implement measures for the selection and review for suitability of application of voltage suppression diodes installed in the control circuitry for the Division 2 Standby Diesel Generator, which was a component subject to the requirements of 10 CFR Part 50, Appendix B. Specifically, Engineering Change Package 04-00049 failed to consider the effects of a shorted diode on the control circuitry for the Division 2 Standby Diesel Generator, and instead, introduced new components (diodes) into the control circuitry that resulted in the eventual failure of this safety-related equipment. This rendered the standby diesel generator inoperable and unable to start for longer than its technical specification allowed outage time, which was a violation of Technical Specification 3.8.1, 'AC Sources-Operating.' The licensee documented the issue in CR 2016-13183, and subsequently replaced the failed component and then modified circuitry to remove the replacement diode and the remaining diodes from similar components.

The inspectors determined that the licensees failure to evaluate the effects of voltage suppression diode failure on the Standby Diesel Generator control circuit was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion III and a performance deficiency which was within the licensees ability to foresee and prevent. The inspectors determined that the performance deficiency was of more than minor significance

because it was associated with the design control attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable co

Inspection Report# : 2017009 ([pdf](#))

Inspection Report# : 2017010 ([pdf](#))

G

Significance: Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement Procedures for Combating a Loss of Shutdown Cooling

A finding of very-low safety significance and associated NCV of TS 5.4, "Procedures," was identified by the inspectors for the failure to implement procedures for combating a loss of shutdown cooling (SDC). Specifically, the licensee failed to implement its procedure for combating a loss of SDC resulting from emergency service water (ESW) inoperability and during high decay heat load. This finding was entered into the licensee's Corrective Action Program to perform analyses for various conditions to identify available alternate methods of decay heat removal and provide associated procedural guidance.

The performance deficiency was determined to be more-than-minor because it was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of mitigating systems to respond to initiating events to prevent undesirable consequences.

The finding screened as very-low safety significance (Green) because it did not impact the operability or Probabilistic Risk Assessment functionality of any mitigating structures, systems, and components. The inspectors did not identify a cross-cutting aspect associated with this finding because it did not reflect current performance due to the age

of the performance deficiency.

Inspection Report# : 2017001 (*pdf*)

G

Significance: G Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

ECC 'B' Heat Exchanger Flow Root Valves Out of Position

A finding of very-low safety significance and associated NCV of TS 5.4.1, "Procedures," was self-revealed for the licensee's failure to follow valve lineup procedure restoration requirements after an emergency service water (ESW) pump 'B' and valve operability test. Specifically, incorrect valve manipulations of the root valves for 1P42R043B and 1P42R043A flow indicators caused the emergency closed cooling (ECC) heat exchanger B flow to read zero with flow through the heat exchanger. The incorrect flow indication rendered the remote shutdown panel inoperable. The licensee subsequently re-positioned the root valves, 1P42R043B and 1P42R043A, and restored the remote shutdown panel to operable. The licensee entered this issue into the CAP as CR 2016-12935.

The inspectors determined that the performance deficiency for failure to follow procedure was more than minor and thus a finding because it was associated with the Mitigating Systems cornerstone attribute of human performance. The performance deficiency adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding has a cross-cutting aspect in the area of human performance, avoid complacency because the licensee failed to ensure that individuals follow processes, procedures, and work instructions. Specifically the individual performing the surveillance did not utilize all the required human performance tools to prevent the error [H.12].

Inspection Report# : 2016004 (*pdf*)

G

Significance: G Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Modifications to Underdrain and Gravity Discharge System Manhole Covers Without a 10 CFR 50.59 Safety Evaluation

The inspectors identified a Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Test, and Experiments," and an associated finding, for the licensee's failure to perform a written evaluation which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee made a change pursuant to 10 CFR 50.59(c) with the installation of grated manhole covers, replacing the rubber gasket, watertight manhole covers for the underdrain and gravity discharge systems and did not provide a basis for the determination that this change would not result in a more than a minimal increase in the likelihood of occurrence of a malfunction of a system structure or component important to safety.. The licensee entered this issue into the CAP as CR 2016-11864 and performed a prompt operability determination to show that the underdrain and gravity drain systems remained functional while the engineering change package was developed to support the change and bring the underdrain and gravity discharge systems into compliance with the design basis.

The performance deficiency was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and adversely affected the cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Per IMC 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process for Findings at Power," the finding was screened against the Mitigating Systems Screening Questions and determined to be of very low safety significance (Green) because the finding did not

cause the underdrain and gravity discharge systems to become inoperable or non-functional.

Traditional enforcement applied to this finding because it involved a violation that impacted the regulatory process. The inspectors determined it to be of Severity Level IV because it resulted in a condition evaluated by the SDP as having very low safety significance (Enforcement Policy example 6.1.d.2). The inspectors determined that the finding had a cross-cutting aspect in the area of human performance, procedure adherence, in that individuals did not follow processes, procedures, and work instructions. Specifically, a design engineer authorized the permanent modification to be made without the required 50.59 evaluation being completed [H.8].

Inspection Report# : 2016004 (*pdf*)

Significance: N/A Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Notify the NRC Within Eight Hours of a Non-emergency Event that Could Have Prevented the Fulfillment of a Safety Function

The inspectors identified a Severity Level IV NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.72(b) (3)(v)(A) and (D), for the licensee's failure to report an event or condition that could have prevented the fulfillment of a safety function to the NRC within eight hours. The licensee's evaluation of this condition, where both trains of the standby liquid control (SLC) system had been inoperable simultaneously, determined that it was not a reportable event. However, the inspectors determined that as described in NUREG 1022, "Event Reporting Guidelines 50.72 and 50.73," Revision 3, Section 3.2.7, the licensee had failed to make a non-emergency eight hour report as required by 10 CFR 50.72(b)(3)(v)(A) and (D). The licensee submitted the eight-hour report on December 30, 2016, and entered this issue into the corrective action program (CAP) as CR 2017-00098.

The failure to make an applicable non-emergency eight-hour event notification report within the required time frame was determined to be a performance deficiency. The inspectors determined that traditional enforcement was applicable to this issue because it impacted the NRC's regulatory process. In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d.9 of the NRC Enforcement Policy, this violation was screened as a Severity Level IV violation that was more than minor. In accordance with IMC 0612, because this violation involved traditional enforcement and does not have an underlying technical violation that would be considered more-than-minor, a cross-cutting aspect was not assigned to this violation.

Inspection Report# : 2016004 (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : November 29, 2017

Page Last Reviewed/Updated Monday, November 06, 2017



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Perry 1 – Quarterly Plant Inspection Findings

4Q/2017 – Plant Inspection Findings

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Initiating Events

Mitigating Systems

Significance: NOPD Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Notify the NRC

Severity Level IV. The inspectors identified a Severity Level IV Non-Cited Violation (NCV) of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.72(b)(3)(v)(A) and (D), ?Immediate Notification Requirements for Operating Nuclear Power Reactors,? for the licensee?s failure to report an event to the NRC within eight hours that at the time of discovery could have prevented the fulfillment of a safety function. Specifically, the licensee did not recognize there was a loss of safety function associated with multiple instrumentation functions as a result of a main steam turbine bypass valve opening at 100 percent reactor power. Therefore, the licensee did not make the required non-emergency eight hour report. After the inspectors questioned the licensee?s conclusion, the licensee recognized there was indeed a loss of safety function and submitted the eight-hour notification report on May 3, 2017. They also entered this issue into the corrective action program (CAP) as condition report (CR) 2017?04939, CR 2017?04868, and CR 2017?05022.

The failure to make an applicable non-emergency eight-hour event notification report within the required timeframe was a performance deficiency. The inspectors determined that traditional enforcement was applicable to the issue because it impacted the NRC?s regulatory process. In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d.9 of the NRC Enforcement Policy, this violation was screened as a Severity Level IV violation that was more than minor. In accordance with Inspection Manual Chapter 0612, because this violation involved traditional enforcement and does not have an associated finding that would be considered more-than-minor, a cross-cutting aspect was not assigned to this violation. (Section 1R15)

Inspection Report# : 2017002 (*pdf*)

G

Significance: May 15, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement Procedures for Combating a Loss of Shutdown Cooling

A finding of very-low safety significance and associated NCV of TS 5.4, "Procedures," was identified by the inspectors for the failure to implement procedures for combating a loss of shutdown cooling (SDC). Specifically, the licensee failed to implement its procedure for combating a loss of SDC resulting from emergency service water (ESW) inoperability and during high decay heat load. This finding was entered into the licensee's Corrective Action Program to perform analyses for various conditions to identify available alternate methods of decay heat removal and provide associated procedural guidance.

The performance deficiency was determined to be more-than-minor because it was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of mitigating systems to respond to initiating events to prevent undesirable consequences. The finding screened as very-low safety significance (Green) because it did not impact the operability or Probabilistic Risk Assessment functionality of any mitigating structures, systems, and components. The inspectors did not identify a cross-cutting aspect associated with this finding because it did not reflect current performance due to the age of the performance deficiency.

Inspection Report# : 2017001 (*pdf*)

W

Significance: Apr 27, 2017

Identified By: NRC

Item Type: TE Traditional Enforcement w/o associated F

Division 2 Diesel Generator Failure to Start due to a Failed Diode in the 125 VDC Control Power Circuit

The inspectors identified a finding preliminarily determined to be of low to moderate safety significance (White), and an associated apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Criterion III, "Design Control," for the licensee's failure to implement measures for the selection and review for suitability of application of voltage suppression diodes installed in the control circuitry for the Division 2 Standby Diesel Generator, which was a component subject to the requirements of 10 CFR Part 50, Appendix B. Specifically, Engineering Change Package 04-00049 failed to consider the effects of a shorted diode on the control circuitry for the Division 2 Standby Diesel Generator, and instead, introduced new components (diodes) into the control circuitry that resulted in the eventual failure of this safety-related equipment. This rendered the standby diesel generator inoperable and unable to start for longer than its technical specification allowed outage time, which was a violation of Technical Specification 3.8.1, "AC Sources-Operating." The licensee documented the issue in CR 2016-13183, and subsequently replaced the failed component and then modified circuitry to remove the replacement diode and the remaining diodes from similar components.

The inspectors determined that the licensee's failure to evaluate the effects of voltage suppression diode failure on the Standby Diesel Generator control circuit was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion III and a performance deficiency which was within the licensee's ability to foresee and prevent. The inspectors determined

that the performance deficiency was of more than minor significance because it was associated with the design control attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the design of the Division 2 Standby Diesel Generator control circuit resulted in the inoperability and unavailability of the Division 2 Standby Diesel Generator from April 2, 2015, to November 8, 2016, when the failed diode was replaced. A Significance and Enforcement Review Panel, using IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," dated June 19, 2012, preliminarily determined the finding to be of low-to-moderate safety significance. The inspectors did not identify any cross-cutting aspects associated with this finding because the condition had existed since at least 2007, when the diodes were originally installed in the DC control power circuits, and therefore, was not indicative of current plant performance.

Inspection Report# : 2017009 ([pdf](#))

Inspection Report# : 2017010 ([pdf](#))

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : February 01, 2018

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