

Perry 1

2Q/2008 Plant Inspection Findings

Initiating Events

Significance: **G** 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*)

Significance: **G** 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)

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)

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)

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)

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)

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)

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 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*)

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*)

Significance:  May 23, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE (NON)-RECURRENCE 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)

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)

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 \(pdf\)](#)

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 \(pdf\)](#)

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 \(pdf\)](#)

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)

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)

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 \(pdf\)](#)

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

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 \(pdf\)](#)

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

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.

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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