

## Millstone 3

### Initiating Events

### Mitigating Systems



**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)



**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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



**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

#### **INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)



**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

**THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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

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**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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

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**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

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**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

Inspection Report# : [2000008\(pdf\)](#)**Significance: N/A** May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Barrier Integrity

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**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : April 01, 2002

## Millstone 3

### Initiating Events

### Mitigating Systems

**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

G

**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)

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**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

G

**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

#### **INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)



**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding



### THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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



**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

### OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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



**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

### FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)



**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

### FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

## Barrier Integrity



**Significance:** Sep 29, 2001

Identified By: Licensee



Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : April 01, 2002

## Millstone 3

### Initiating Events

### Mitigating Systems



**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)



**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)



**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety

related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

G

**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

**INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)

G

**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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

G

**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)

G

**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

**THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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



**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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



**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

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## Barrier Integrity



**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)



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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : March 29, 2002

## Millstone 3

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### Initiating Events

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### Mitigating Systems



**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)



**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)



**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety

related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

G

**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

**INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)

G

**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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

G

**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)

G

**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

**THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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



**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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



**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

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## Barrier Integrity



**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : March 28, 2002



## Millstone 3

### Initiating Events

### Mitigating Systems



**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

#### **THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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



**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

#### **OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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



**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

G

**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

Inspection Report# : [2000008\(pdf\)](#)**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

G

**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)

G

**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

G

**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

**INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not

fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)



**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

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## Barrier Integrity

G**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

G**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection

G**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in

accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

### **LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : March 28, 2002

## Millstone 3

### Initiating Events

### Mitigating Systems



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

#### **IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

#### **QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

#### **THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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



G

**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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

G

**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

G

**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

G

**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)

G

**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

G

**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

**INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)

G

**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

Inspection Report# : [2001006\(pdf\)](#)**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

## Barrier Integrity

G

**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : March 27, 2002

## Millstone 3

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### Initiating Events

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### Mitigating Systems



**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

#### **FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

#### **IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

#### **QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

G

**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

**THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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

G

**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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

G

**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

G

**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise



the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)

G

**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

G

**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

#### **INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)

G

**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Barrier Integrity

G

**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : March 26, 2002

## Millstone 3

### Initiating Events

### Mitigating Systems



**Significance:** Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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



**Significance:** Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

#### **INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)



**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

#### **FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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



**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

#### **IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)

G

**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

G

**Significance:** Feb 10, 2001

Identified By: Licensee

Item Type: FIN Finding

**THE POWER CABLE FOR CHARGING PUMP 3CHS\*P3B WAS INAPPROPRIATELY ROUTED THROUGH THE FIRE AREA HOUSING THE REACTOR PLANT COMPONENT COOLING WATER PUMPS SINCE PLANT CONSTRUCTION**

The power cable for charging pump 3CHS\*P3B was inappropriately routed through the fire area housing the reactor plant component cooling water (CCP) pumps since plant construction. Since the licensee's fire analysis credits pump 3CHS\*P3B to provide reactor coolant pump (RCP) seal cooling, and also credits the flow from the CCP pumps through the thermal barrier heat exchangers as the alternate method of RCP seal cooling, this condition potentially compromised the plant design intended to prevent RCP seal damage that could lead to a small-break loss-of-coolant accident. The identified problem was reported as a condition outside the design basis of the unit. Based upon the defense in depth barriers for plant fire protection, only one of which was degraded by the identified problem, and also considering the availability of other multi-train equipment ("A" train charging pump and "C" swing charging pump) to mitigate the postulated, worst-case result of a major fire in the area, this condition was found to be of very low safety significance (Green).

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

G

**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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

G

**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

G

**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

Inspection Report# : [2000008\(pdf\)](#)**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

## Barrier Integrity

G

**Significance:** Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

## Emergency Preparedness

## Occupational Radiation Safety

G

**Significance:** May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

## Public Radiation Safety

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### Physical Protection



**Significance:** May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

#### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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### Miscellaneous

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

#### **LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : March 01, 2002



## Millstone 3

### Initiating Events

### Mitigating Systems

**Significance:**  Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)

**Significance:**  Feb 01, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY REGARDING TWO INSTANCES WHERE A SAFETY RELATED CHECK VALVE IN THE UNIT 3 EMERGENCY DIESEL "A" START SYSTEM FAILED TO CLOSE**

A non-cited violation of 10 CFR 50 Appendix B, Criteria XVI, for failure to promptly identify and correct a condition adverse to quality regarding two instances where a safety related check valve in the Unit 3 emergency diesel "A" air start system failed to prevent a pressure decrease in the associated air receiver tank. However, the failure to identify and evaluate this problem is considered to have a very low safety significance because of the redundant air receivers and compressors, and remote monitoring of air receiver pressure.

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

**Significance:**  Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

**Significance:**  Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

**INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)Inspection Report# : [2002003\(pdf\)](#)**Significance:** Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

Inspection Report# : [2001006\(pdf\)](#)**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)Inspection Report# : [2002003\(pdf\)](#)**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

Inspection Report# : [2000014\(pdf\)](#)**Significance:** Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)**Significance:** Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

Inspection Report# : [2000008\(pdf\)](#)**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

G

Significance: Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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Significance: May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection

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Significance: May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved

Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance: N/A** Feb 01, 2002

Identified By: NRC

Item Type: FIN Finding

### **OVERALL THE LICENSEE IDENTIFIED PROBLEMS AT AN APPROPRIATE THRESHOLD AND ENTERING THEM INTO THE CAP FOR RESOLUTION**

Overall the licensee identified problems at an appropriate threshold and entering them into the CAP for resolution. The identification of repetitive trends appeared proper. However, the use of trend cause codes to identify possible precursor trends was limited. No deficiencies were identified in completed operability determinations. The significance level 1 root cause evaluations reviewed during the inspection sufficiently identified likely causal factors and corrective actions. The significance level 2 apparent cause evaluations generally appeared appropriate. The selected effectiveness reviews were of good quality. Several instances were identified where the evaluation of problems documented in significance level 2 and level "N" condition reports were either not adequately evaluated or prioritized for completion, or were not completed in sufficient detail to provide for timely and effective corrective actions. Two instances involving Unit 2 atmospheric steam dump valves and a Unit 3 emergency diesel air start check valve were determined to be green findings. Corrective actions appeared appropriate. The effectiveness reviews selected were of good quality, including several where the reviewer appropriately identified inadequate corrective actions. Some safety-related pump bearing oil problems concerns continue to occur, but previous corrective actions may not have had time to correct existing issues.

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

**Significance: N/A** Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

### **LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : July 22, 2002

## Millstone 3

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### Initiating Events

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### Mitigating Systems

**Significance:**  Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1 hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)

**Significance:**  Feb 01, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY REGARDING TWO INSTANCES WHERE A SAFETY RELATED CHECK VALVE IN THE UNIT 3 EMERGENCY DIESEL "A" START SYSTEM FAILED TO CLOSE**

A non-cited violation of 10 CFR 50 Appendix B, Criteria XVI, for failure to promptly identify and correct a condition adverse to quality regarding two instances where a safety related check valve in the Unit 3 emergency diesel "A" air start system failed to prevent a pressure decrease in the associated air receiver tank. However, the failure to identify and evaluate this problem is considered to have a very low safety significance because of the redundant air receivers and compressors, and remote monitoring of air receiver pressure.

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



**Significance:**  Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

### **LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

**Significance:**  Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

### **INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)

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

**Significance:**  Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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

**Significance:**  Jun 30, 2001

Identified By: NRC



Item Type: FIN Finding

### **IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)

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

**Significance:**  Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

### **QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:**  Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

### **OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators

restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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

**Significance:**  Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

**Significance:**  Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

## Barrier Integrity

**Significance:**  Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection

**Significance:**  May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Feb 01, 2002

Identified By: NRC

Item Type: FIN Finding

### **OVERALL THE LICENSEE IDENTIFIED PROBLEMS AT AN APPROPRIATE THRESHOLD AND ENTERING THEM INTO THE CAP FOR RESOLUTION**

Overall the licensee identified problems at an appropriate threshold and entering them into the CAP for resolution. The identification of repetitive trends appeared proper. However, the use of trend cause codes to identify possible precursor trends was limited. No deficiencies were identified in completed operability determinations. The significance level 1 root cause evaluations reviewed during the inspection sufficiently identified likely causal factors and corrective actions. The significance level 2 apparent cause evaluations generally appeared appropriate. The selected effectiveness reviews were of good quality. Several instances were identified where the evaluation of problems documented in significance level 2 and level "N" condition reports were either not adequately evaluated or prioritized for completion, or were not completed in sufficient detail to provide for timely and effective corrective actions. Two instances involving Unit 2 atmospheric steam dump valves and a Unit 3 emergency diesel air start check valve were determined to be green findings. Corrective actions appeared appropriate. The effectiveness reviews selected were of good quality, including several where the reviewer appropriately identified inadequate corrective actions. Some safety-related pump bearing oil problems concerns continue to occur, but previous corrective actions may not have had time to correct existing issues.

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

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

### **LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION**

**WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : August 29, 2002

## Millstone 3

### Initiating Events

### Mitigating Systems

**Significance:**  Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DESIGN CONTROL NCV. FAILURE TO IDENTIFY AND EVALUATE A DESIGN DEFICIENCY RELATED TO THE ABILITY OF THE RECIRCULATION SPRAY SYSTEM (RSS) TO WITHSTAND THE EFFECTS OF A COLUMN SEPARATION PRESSURE WAVE**

The inspectors identified a Non-Cited violation (NCV) of 10CFR50, Appendix "B", Criterion III - Design Control, concerning a failure to evaluate the ability of the service water piping to withstand a column separation water hammer. Specifically, the licensee failed to evaluate whether certain portions of the service water return piping from the recirculation spray system were susceptible to transient loads in excess of those described in design basis structural integrity limits. The finding impacted the Mitigating Systems Cornerstone and had the potential to reduce the reliability of service water cooling to the recirculation spray system. However, this finding was determined to be of very low safety significance (Green) because a subsequent operability determination concluded that the affected piping system would remain functional under postulated accidents conditions. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy.

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

**Significance:**  Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EDG RESULTED IN AN EXTENDED PERIOD OF EDG INOPERABILITY AND A VIOLATION OF TS 3.8.1.1**

The inspector determined that following the conduct of testing activities (i.e., SP 3646A.2) that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time (AOT) for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1 hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. This is considered a violation of TS 3.8.1.1. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. As a result of the licensee's review activities and corrective actions developed with respect to CR-01-12394, this violation is being treated as a Non-Cited Violation (NCV 50-423/01-14-01) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2001014\(pdf\)](#)



**Significance:**  Feb 01, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY REGARDING TWO INSTANCES WHERE A SAFETY RELATED CHECK VALVE IN THE UNIT 3 EMERGENCY DIESEL "A" START SYSTEM FAILED TO CLOSE**

A non-cited violation of 10 CFR 50 Appendix B, Criteria XVI, for failure to promptly identify and correct a condition adverse to quality regarding two instances where a safety related check valve in the Unit 3 emergency diesel "A" air start system failed to prevent a pressure decrease in the associated air receiver tank. However, the failure to identify and evaluate this problem is considered to have a very low safety significance because of the redundant air receivers and compressors, and remote monitoring of air receiver pressure.

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

**Significance:**  Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE REQUALIFICATION EXAM RESULTS**

Two of ten Unit 3 crews failed the dynamic simulator portion of a licensed operator requalification exam. The crew failures are more than minor (credible effect on safety) because the rate is 20% and the deficiencies reflected the potential inability of the crews to take appropriate safety related actions in response to actual emergency conditions. Based on the percentage of crew failures (20% - 2 of 10 crews examined failed), the finding was characterized by the SDP as having very low risk significance. The crews failed to successfully complete a "crew critical task," which measured each crew's ability to place and maintain the reactor in a safe operational or shutdown condition.

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

**Significance:**  Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

**INSUFFICIENT COMPENSATORY MEASURES FOR REMOVAL OF CABLE SPREADING ROOM CO2 SUPPRESSION SYSTEM**

The NRC concluded that the measures implemented to compensate for locking out the cable spreading room fixed suppression system were not fully effective, which could result in delays in suppressing a fire in the area. Deficiencies related to selection and use of fire suppression equipment, fire fighting strategy content and usage, command and control, and communications delayed the application of a hose stream to a simulated fire during a fire brigade drill in the cable spreading room. This delay could have resulted in increased fire damage because the gaseous fixed suppression system was unavailable. This finding was of very low safety significance (Green) because the likelihood of occurrence of a fire that could damage safety-related equipment in this area is small, and equipment and procedures were available for alternate shutdown outside of the control room.

Inspection Report# : [2001012\(pdf\)](#)

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

**Significance:**  Aug 11, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM ADEQUATE POST-MAINTENANCE AND SURVEILLANCE TESTING OF THE INDEPENDENT CCE TRAINS**

The NRC determined that the failure to perform adequate post-maintenance and surveillance testing of the independent CCE trains constituted a violation of 10 CFR 50, Appendix B, Criterion XI for "Test Control". However, because it was subsequently determined that the charging pumps would remain operable, given the assumed conditions of the loss



of service water cooling for the CCE system, as occurred on June 13, the inspector evaluated this condition using Phase 1 of the NRC's Significance Determination Process and concluded that the licensee performance errors contributing to this event and the noted violation were of very low safety significance (Green). Also, since the licensee corrective action plans relating to each performance problem, including those involving test inadequacies, were appropriately documented by the licensee in response to CR-01-06186, this violation is being treated as a Non-Cited Violation.

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

**Significance:**  Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**IMPROPER WORK CONTROL REVIEW FOR A TEMPORARY MODIFICATION RESULTED IN TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM INOPERABILITY**

The licensee's implementation of a temporary plant modification with an improper work control review resulted in a period of turbine-driven auxiliary feedwater system inoperability. Subsequent NRC review identified that the process controls for the modified system alignment had inadequately evaluated the potential for causing a safety system to be declared inoperable. This finding was of very low safety significance because of the short duration of the inoperability and the availability of the redundant auxiliary feedwater components and flowpaths, which remained unaffected by this event.

Inspection Report# : [2001005\(pdf\)](#)

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

**Significance:**  Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT TIMELY CORRECTIVE ACTIONS FOR PIPING LEAKS ON SERVICE WATER STRAINER BLOWDOWN LINES**

The NRC identified a Non-Cited Violation for failure to implement appropriate corrective action (10 CFR Appendix B Criterion XVI) after the licensee identified that piping leaks on service water strainer blowdown lines, originally identified during a first quarter 2001 refueling outage, should have been repaired before unit restart at the end of March. This finding was of very low safety significance because although the NRC review determined that additional corrective measures (i.e., procedure revisions) were necessary to address concerns for problem recurrence for adequate operability determinations, the structural integrity for the service water piping had been maintained.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

**QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

**Significance:**  Feb 10, 2001

Identified By: NRC

Item Type: FIN Finding

**OPERATORS FAILED TO RECOGNIZE THAT THE "B" TRAIN OF SERVICE WATER CONFIGURATION RENDERED THE TRAIN INOPERABLE**

Operators failed to recognize that the "B" train of service water configuration rendered the train inoperable and therefore, were not tracking the inoperability against the 72 hour allowed outage time for Technical Specification limiting condition for operation 3.7.4, Service Water System, which is applicable in Modes 1 through 4. Operability

Determination (OD) MP3-026-01 was written to justify operability of the "B" train of service water with the discharge check valve for one of the two pumps in the train missing a portion of its soft seat. One of the compensatory measures for this OD required that the "B" train of service water be operated with the "D" pump in the "lead" mode for a sequenced restart to prevent a drain-down of the service water system following a loss of power. However, on February 3, 2001, during Mode 4 (Hot Shutdown) conditions, the inspector identified that the above compensatory measure was not being followed. Instead, the "B" pump controls were in lead, as indicated on the main control board. Operators restored the compensatory measure upon identification of the problem. This condition apparently existed since the previous day, when the plant was at power. The time that the compensatory measures were not in affect did not exceed the TS allowed outage time one train of service water being inoperable. This condition was found to be of very low safety significance (Green) due to the fact that only one train of service water was affected for less than the TS allowed outage time for the plant conditions, and this condition would not have prevented the plant from being maintained in hot shutdown.

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

**Significance:**  Feb 02, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITIONS ADVERSE TO QUALITY, I.E., NCVS, WERE NOT PROPERLY ADDRESSED**

The NRC identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, due to a failure to properly evaluate and correct conditions adverse to quality. Specifically, four Non-Cited Violations issued in the last year were not fully addressed in the licensee's corrective action program. Although the associated equipment or plant condition was corrected, the subject of the violation (e.g., failure to revise or use appropriate procedures) was not resolved. The safety significance was determined to be very low because the physical deficiencies were corrected.

Inspection Report# : [2000017\(pdf\)](#)

**Significance:**  Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ESTABLISH ADEQUATE SURVEILLANCE TEST CRITERIA**

Technical Specification 4.0.5 requires that inservice testing of check valves be conducted at maximum credited design basis flow. Unit 3 Surveillances SP 3622.7-1 and SP 3622.3-5 established acceptance criteria for auxiliary feedwater (AFW) pump discharge check valve operability below this criteria. This is a violation of Millstone Unit 3 TS 6.8.1, Procedures, and is being treated as a Non-Cited Violation.

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

**Significance:** N/A May 13, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY IDENTIFY AND CORRECT NONCONFORMING CONDITIONS AND TO ADEQUATELY CONTROL A "DE FACTO" DESIGN CHANGE ON THE "B" EDG FUEL RETURN SYSTEM**

Operability Determination MP3-020-99 documented a nonconforming condition regarding missing check valve internals on the "B" emergency diesel generator (EDG). A review of the action items, documented in condition report CR M3-99-2262 to restore the "B" EDG design basis qualification, determined that corrective measures were neither implemented at the first available opportunity, nor justified for a longer completion schedule. The NRC determined that this nonconforming condition was neither promptly identified and corrected, nor evaluated as a field design change; and thus, represented a violation of 10CFR50, Appendix B. The "B" EDG, while not fully qualified, was determined to be operable. This issue was determined to be a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-01 in IR 05000423/2000-007)

Inspection Report# : [2000007\(pdf\)](#)

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## Barrier Integrity

**Significance:**  Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE PROCEDURE TO DRAIN AN ISOLATED REACTOR COOLANT SYSTEM LOOP**

The inspectors identified a Non-Cited violation (NCV) of technical specifications (TS) 6.8.1 for an inadequate operating procedure, which resulted in a failure to maintain an isolated reactor coolant system (RCS) loop pressure below its TS required pressure limit. The finding impacted the Barrier Integrity Cornerstone and had an actual impact of exposing an isolated RCS loop to a pressure that exceeded a pressure-temperature limit delineated in the TS. The finding was of very low safety significance (Green) because there was no adverse impact on the structural integrity of any RCS components and the requirements of TS were met. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy.

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

**Significance:**  Sep 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLETE A VERIFICATION OF ISOLATION TIME TEST FOR CONTAINMENT ISOLATION VALVE FOLLOWING MAINTENANCE**

Technical Specification 4.6.3.1 requires that each isolation valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time. Contrary to the above, the licensee failed to complete a verification of isolation time test for containment isolation valve 3CCP\*MOV45A (reactor plant component cooling water system supply header isolation valve) following maintenance activities performed on this valve on May 5, 1999. The licensee entered this violation into its corrective action program as Condition Reports CR-01-01158 and CR-01-01649.

Inspection Report# : [2001007\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  May 13, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL A HIGH RADIATION AREA IN ACCORDANCE WITH TECHNICAL SPECIFICATION 6.12.2**

On June 19, 1999, licensee personnel identified that the entrance ladder to the north access to the Unit 3 reactor cavity, an area having radiation levels greater than 1000 millirem/hour when measured at 45 centimeters from the source, was not locked or otherwise controlled to prevent unauthorized entry. Technical Specification 6.12.2 requires that plant areas, accessible to personnel, with radiation levels greater than 1000 millirem/hour at 45 centimeters be locked to

prevent unauthorized entry. Upon identification, access controls were promptly established. The licensee determined that there was no compromise in their ability to assess dose, that this condition was of short duration, and that no personnel were overexposed as a result of this condition. Consequently, there was very low risk significance associated with this violation. The licensee entered the issue into its corrective action process as condition report M3-99-2430. Additionally, the licensee recognized the matter as a performance indicator affecting Occupational Exposure Control Effectiveness. This item was identified as a Non-Cited Violation. (This item is documented as NCV 05000423/2000-007-02 in IR 05000423/2000-007)  
Inspection Report# : [2000007\(pdf\)](#)

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## Public Radiation Safety

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### Physical Protection

**Significance:**  May 12, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

#### **PROTECTED AREA GATE OPEN WITHOUT COMPENSATORY ACTIONS**

On February 5, 2001, the licensee identified that a gate that constituted a portion of the Protected Area barrier was in the fully open position without compensatory actions in place. This condition was contrary to the licensee's NRC approved Physical Security Plan, which states in part, that "Gates that constitute a portion of the protected area boundary area are constructed of the same or equivalent materials that are used for the protected area fence... . All gates are locked and alarmed when not in use...." This issue is more than minor in that, if left uncorrected, the same condition could result in unauthorized entry into the Protected Area. Since there was no malevolent act, no actual intrusion occurred, and there have not been greater than two similar findings in the past four quarters, the Significance Determination Process classifies this finding as one of very low safety significance (Green). This condition is a violation of 10 CFR 73.40, which requires that each licensee maintain physical security in accordance with their NRC-approved Physical Security Plan (NCV 05000336,423/2001-004-05). This issue was entered into the licensee's corrective action program as CR-01-01032.

Inspection Report# : [2001004\(pdf\)](#)

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### Miscellaneous

**Significance:** N/A Feb 01, 2002

Identified By: NRC

Item Type: FIN Finding

#### **OVERALL THE LICENSEE IDENTIFIED PROBLEMS AT AN APPROPRIATE THRESHOLD AND ENTERING THEM INTO THE CAP FOR RESOLUTION**

Overall the licensee identified problems at an appropriate threshold and entering them into the CAP for resolution. The identification of repetitive trends appeared proper. However, the use of trend cause codes to identify possible precursor trends was limited. No deficiencies were identified in completed operability determinations. The significance level 1 root cause evaluations reviewed during the inspection sufficiently identified likely causal factors and corrective actions. The significance level 2 apparent cause evaluations generally appeared appropriate. The selected effectiveness reviews were of good quality. Several instances were identified where the evaluation of problems documented in significance level 2 and level "N" condition reports were either not adequately evaluated or prioritized for completion, or were not completed in sufficient detail to provide for timely and effective corrective actions. Two instances involving Unit 2 atmospheric steam dump valves and a Unit 3 emergency diesel air start check valve were determined to be green

findings. Corrective actions appeared appropriate. The effectiveness reviews selected were of good quality, including several where the reviewer appropriately identified inadequate corrective actions. Some safety-related pump bearing oil problems concerns continue to occur, but previous corrective actions may not have had time to correct existing issues.  
Inspection Report# : [2001015\(pdf\)](#)

**Significance:** N/A Feb 02, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PERFORMANCE IN THE AREA OF PROBLEM IDENTIFICATION AND RESOLUTION WAS GENERALLY ADEQUATE**

The licensee's performance in the area of problem identification and resolution at Millstone Units 2 and 3 was generally adequate. The licensee's staff usually identified risk significant problems at an appropriate threshold, and the problems were classified at an appropriate significance level. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. In general, the majority of the issues reviewed were dealt with adequately when entered into the corrective action program; however, the team noted that a number of NRC findings identified over the past year concerned the cross-cutting area of problem identification and resolution. The majority of these findings related to Unit 2, with respect to the prioritization and evaluation of problems, and the effectiveness of corrective actions. The team also noted that many of the corrective actions were extended considerably beyond the original scheduled completion date. Additionally, while procedures allowed waiving of a root cause analyses for significant conditions adverse to quality, about half of the root cause analyses were waived without providing adequate documented justification.

Inspection Report# : [2000017\(pdf\)](#)

Last modified : December 02, 2002

## Millstone 3

### Initiating Events

### Mitigating Systems



**Significance:** Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DESIGN CONTROL - FAILURE TO IDENTIFY AND EVALUATE A DESIGN DEFICIENCY REGARDING THE RECIRCULATION SPRAY SYSTEM (RSS) AND SUSCEPTIBILITY TO WATER HAMMER**

The inspectors identified a failure to evaluate the ability of the service water piping to withstand a column separation water hammer. Specifically, the licensee failed to evaluate whether certain portions of the service water return piping from the recirculation spray system were susceptible to transient loads in excess of those described in design basis structural integrity limits. The finding impacted the Mitigating Systems Cornerstone and had the potential to reduce the reliability of service water cooling to the recirculation spray system. However, this finding was determined to be of very low safety significance (Green) because a subsequent operability determination concluded that the affected piping system would remain functional under postulated accidents conditions. The issue was determined to be a violation of 10 CFR 50, Appendix B, Criterion III, Design Control. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy. Inspection Report# : [2002005\(pdf\)](#)



**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **AN INADEQUATE PROCEDURE CAUSED A DELAY IN THE DISCOVERY OF DISCHARGED BREAKER CLOSING SPRINGS FOR THE "B" EMERGENCY DIESEL GENERATOR (EDG) RESULTING IN AN EXTENDED PERIOD OF EDG INOPERABILITY**

The inspectors determined that following the conduct of testing activities that discharged the "B" EDG breaker closing springs, no documented requirement existed to verify that the springs were recharged. This resulted in a delay in the discovery of "B" EDG system inoperability and therefore, also in an extended period of time for the subject EDG unavailability. While the total unavailability time period (approximately 37 hours) was within the TS allowed outage time for one inoperable EDG, the inspector identified that TS 3.8.1.1, action b. requires certain verification activities of redundant electrical power supply availability within 1 hour, 8 hour, and 24 hour time periods. These actions were not performed, as required in the times allotted, because of the noted delays associated with the discovery of the inoperable "B" EDG condition. The inspector evaluated this condition using the NRC Significance Determination Process and concluded that the condition was of very low significance (Green) because the plant TS provided for an AOT of 72 hours, because the AC electrical offsite sources and redundant onsite sources remained operable during the period of "B" EDG unavailability, and because no plant work was done to compromise the Unit 3 risk configuration during the time that the EDG inoperability was not recognized. The issue was determined to be a violation of technical specification 3.8.1.1, AC Sources. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy. Inspection Report# : [2001014\(pdf\)](#)



**Significance:** Feb 01, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY REGARDING A DEGRADED SAFETY-RELATED CHECK VALVE IN THE UNIT 3 EDG AIR START SYSTEM**

The Problem Identification and Resolution team inspectors identified a failure to promptly identify and correct a condition adverse to quality regarding two instances where a safety related check valve in the Unit 3 emergency diesel "A" air start system failed to prevent a pressure decrease in the associated air receiver tank. However, the failure to identify and evaluate this problem is considered to have a very low safety significance because of the redundant air receivers and compressors, and remote monitoring of air receiver pressure. This issue was determined to be a violation of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, the finding is being treated as a non-cited violation, consistent with section VI.A of the NRC Enforcement Policy.



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

**Significance:** TBD Jun 30, 2001

Identified By: Licensee

Item Type: URI Unresolved item

#### **QUENCH SPRAY SYSTEM MANUAL VALVE MISALIGNMENT**

An apparent violation of Technical Specification 3.6.2.1, Containment Quench Spray System, involving the failure to adequately verify the position of quench spray system discharge valves, was identified in LER 50-423/2001-001. The safety significance of the finding is under review, and the apparent violation is being treated as an unresolved item.

Inspection Report# : [2001005\(pdf\)](#)

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## **Barrier Integrity**



**Significance:** G Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **INADEQUATE PROCEDURE TO DRAIN AN ISOLATED REACTOR COOLANT SYSTEM LOOP**

The inspectors identified an inadequate operating procedure, which resulted in a failure to maintain an isolated reactor coolant system (RCS) loop pressure below its TS required pressure limit. The finding impacted the Barrier Integrity Cornerstone and had an actual impact of exposing an isolated RCS loop to a pressure that exceeded a pressure-temperature limit delineated in the TS. The finding was of very low safety significance (Green) because there was no adverse impact on the structural integrity of any RCS components and the requirements of TS were met. This issue was determined to be a violation of Technical Specification 6.8.1, Procedures and Programs. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy.

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

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## **Emergency Preparedness**

## **Occupational Radiation Safety**

## **Public Radiation Safety**

## **Physical Protection**

## **Miscellaneous**

**Significance:** N/A Feb 01, 2002

Identified By: NRC

Item Type: FIN Finding

#### **PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

Overall the licensee identified problems at an appropriate threshold and entered them into the CAP for resolution. The identification of repetitive trends appeared proper. However, the use of trend cause codes to identify possible precursor trends was limited. No deficiencies were identified in completed operability determinations. The significance level 1 root cause evaluations reviewed during the inspection sufficiently identified likely causal factors and corrective actions. The significance level 2 apparent cause evaluations generally appeared appropriate. The



selected effectiveness reviews were of good quality. Several instances were identified where the evaluation of problems documented in significance level 2 and level "N" condition reports were either not adequately evaluated or prioritized for completion, or were not completed in sufficient detail to provide for timely and effective corrective actions. Corrective actions appeared appropriate. The effectiveness reviews selected were of good quality, including several where the reviewer appropriately identified inadequate corrective actions. Some safety-related pump bearing oil problem concerns continue to occur, but previous corrective actions may not have had time to correct existing issues.  
Inspection Report# : [2001015\(pdf\)](#)

Last modified : March 25, 2003

## Millstone 3

# 1Q/2003 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:**  Mar 29, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure of the licensee to identify an error in design calculations involving the technical specification for emergency diesel fuel oil storage tank level, and failure to prevent translation of this e**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion III, for inadequate design control measures to provide for the verification of a design and for failure to assure that regulatory requirements were correctly translated into procedures. Specifically, the licensee failed to identify a calculation error from 1992 and 1993 regarding technical specification (TS) fuel oil storage tank levels, and then failed to prevent the error from being translated into the TS surveillance procedure that demonstrates EDG operability. This finding is more than minor because required EDG fuel oil storage tank levels were incorrectly translated into technical specification surveillance procedures and the actual tank level calculations had to be reperformed to assure historical TS requirements were met. This is similar to example 3.i in Appendix E of Manual Chapter 0612, Power Reactor Inspection Reports. The finding was determined to be of very low safety significance (Green), and is being dispositioned as a Non-Cited Violation, based on licensee analysis that determined no loss of safety function for the EDGs. This finding regarding the failure to identify the incorrect calculations and the subsequent error in the TS surveillance procedure is related to the licensee's Problem Identification and Resolution process.

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

**Significance:**  Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **DESIGN CONTROL - FAILURE TO IDENTIFY AND EVALUATE A DESIGN DEFICIENCY REGARDING THE RECIRCULATION SPRAY SYSTEM (RSS) AND SUSCEPTIBILITY TO WATER HAMMER**

The inspectors identified a failure to evaluate the ability of the service water piping to withstand a column separation water hammer. Specifically, the licensee failed to evaluate whether certain portions of the service water return piping from the recirculation spray system were susceptible to transient loads in excess of those described in design basis structural integrity limits. The finding impacted the Mitigating Systems Cornerstone and had the potential to reduce the reliability of service water cooling to the recirculation spray system. However, this finding was determined to be of very low safety significance (Green) because a subsequent operability determination concluded that the affected piping system would remain functional under postulated accidents conditions. The issue was determined to be a violation of 10 CFR 50, Appendix B, Criterion III, Design Control. Because the finding is of very low safety significance and was captured in the licensee' corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy.

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

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## Barrier Integrity

**Significance:**  Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE PROCEDURE TO DRAIN AN ISOLATED REACTOR COOLANT SYSTEM LOOP**

The inspectors identified an inadequate operating procedure, which resulted in a failure to maintain an isolated reactor coolant system (RCS) loop pressure below its TS required pressure limit. The finding impacted the Barrier Integrity Cornerstone and had an actual impact of exposing an isolated RCS loop to a pressure that exceeded a pressure-temperature limit delineated in the TS. The finding was of very low safety significance (Green) because there was no adverse impact on the structural integrity of any RCS components and the requirements of TS were met. This issue was determined to be a violation of Technical Specification 6.8.1, Procedures and Programs. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy.

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

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

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## Miscellaneous

Last modified : May 30, 2003

## Millstone 3

### 2Q/2003 Plant Inspection Findings

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#### Initiating Events

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#### Mitigating Systems

**Significance:**  Mar 29, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure of the licensee to identify an error in design calculations involving the technical specification for emergency diesel fuel oil storage tank level, and failure to prevent translation of this e**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion III, for inadequate design control measures to provide for the verification of a design and for failure to assure that regulatory requirements were correctly translated into procedures. Specifically, the licensee failed to identify a calculation error from 1992 and 1993 regarding technical specification (TS) fuel oil storage tank levels, and then failed to prevent the error from being translated into the TS surveillance procedure that demonstrates EDG operability. This finding is more than minor because required EDG fuel oil storage tank levels were incorrectly translated into technical specification surveillance procedures and the actual tank level calculations had to be reperformed to assure historical TS requirements were met. This is similar to example 3.i in Appendix E of Manual Chapter 0612, Power Reactor Inspection Reports. The finding was determined to be of very low safety significance (Green), and is being dispositioned as a Non-Cited Violation, based on licensee analysis that determined no loss of safety function for the EDGs. This finding regarding the failure to identify the incorrect calculations and the subsequent error in the TS surveillance procedure is related to the licensee's Problem Identification and Resolution process.

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

**Significance:**  Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**DESIGN CONTROL - FAILURE TO IDENTIFY AND EVALUATE A DESIGN DEFICIENCY REGARDING THE RECIRCULATION SPRAY SYSTEM (RSS) AND SUSCEPTIBILITY TO WATER HAMMER**

The inspectors identified a failure to evaluate the ability of the service water piping to withstand a column separation water hammer. Specifically, the licensee failed to evaluate whether certain portions of the service water return piping from the recirculation spray system were susceptible to transient loads in excess of those described in design basis structural integrity limits. The finding impacted the Mitigating Systems Cornerstone and had the potential to reduce the reliability of service water cooling to the recirculation spray system. However, this finding was determined to be of very low safety significance (Green) because a subsequent operability determination concluded that the affected piping system would remain functional under postulated accidents conditions. The issue was determined to be a violation of 10 CFR 50, Appendix B, Criterion III, Design Control. Because the finding is of very low safety significance and was captured in the licensee' corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy.

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

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## Barrier Integrity

**Significance:**  Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE PROCEDURE TO DRAIN AN ISOLATED REACTOR COOLANT SYSTEM LOOP**

The inspectors identified an inadequate operating procedure, which resulted in a failure to maintain an isolated reactor coolant system (RCS) loop pressure below its TS required pressure limit. The finding impacted the Barrier Integrity Cornerstone and had an actual impact of exposing an isolated RCS loop to a pressure that exceeded a pressure-temperature limit delineated in the TS. The finding was of very low safety significance (Green) because there was no adverse impact on the structural integrity of any RCS components and the requirements of TS were met. This issue was determined to be a violation of Technical Specification 6.8.1, Procedures and Programs. Because the finding is of very low safety significance and was captured in the licensee's corrective action program, this finding is being treated as a non-cited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy.

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

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

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## Miscellaneous

Last modified : September 04, 2003

## Millstone 3

### 3Q/2003 Plant Inspection Findings

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#### Initiating Events

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#### Mitigating Systems

**Significance:**  Mar 29, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure of the licensee to identify an error in design calculations involving the technical specification for emergency diesel fuel oil storage tank level, and failure to prevent translation of this e**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion III, for inadequate design control measures to provide for the verification of a design and for failure to assure that regulatory requirements were correctly translated into procedures. Specifically, the licensee failed to identify a calculation error from 1992 and 1993 regarding technical specification (TS) fuel oil storage tank levels, and then failed to prevent the error from being translated into the TS surveillance procedure that demonstrates EDG operability. This finding is more than minor because required EDG fuel oil storage tank levels were incorrectly translated into technical specification surveillance procedures and the actual tank level calculations had to be reformed to assure historical TS requirements were met. This is similar to example 3.i in Appendix E of Manual Chapter 0612, Power Reactor Inspection Reports. The finding was determined to be of very low safety significance (Green), and is being dispositioned as a Non-Cited Violation, based on licensee analysis that determined no loss of safety function for the EDGs. This finding regarding the failure to identify the incorrect calculations and the subsequent error in the TS surveillance procedure is related to the licensee's Problem Identification and Resolution process.

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

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#### Barrier Integrity

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#### Emergency Preparedness

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#### Occupational Radiation Safety

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#### Public Radiation Safety

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## Physical Protection

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## Miscellaneous

Last modified : December 01, 2003



## Millstone 3

### 4Q/2003 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:**  Oct 15, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ADEQUATELY EVALUATE AND CORRECT AN IDENTIFIED DEGRADATION OF THE SERVICE WATER (SW) PUMP/MOTOR COUPLING**

The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, for the failure to evaluate and correct an identified condition adverse to quality (physical degradation) associated with the "B" service water (SW) pump/motor coupling. The inspectors found that the licensee had not properly evaluated a degraded condition of the "B" SW pump/motor coupling and associated fasteners after a condition report documented the "B" SW pump packing and coupling degradation. Subsequently, the licensee declared the pump inoperable and replaced the coupling.

This finding is more than minor because the failure to evaluate the identified degradation of a mitigating system, and to take corrective actions, would have allowed further degradation and affected operability of the system. The finding is associated with the equipment performance attribute of the mitigating systems cornerstone and the objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. However, the finding was determined to be of very low safety significance based on the as-found condition and an analysis of the existing degradation that concluded the SW pump was capable of meeting its safety function.

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

**Significance:**  Mar 29, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure of the licensee to identify an error in design calculations involving the technical specification for emergency diesel fuel oil storage tank level, and failure to prevent translation of this error**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion III, for inadequate design control measures to provide for the verification of a design and for failure to assure that regulatory requirements were correctly translated into procedures. Specifically, the licensee failed to identify a calculation error from 1992 and 1993 regarding technical specification (TS) fuel oil storage tank levels, and then failed to prevent the error from being translated into the TS surveillance procedure that demonstrates EDG operability.

This finding is more than minor because required EDG fuel oil storage tank levels were incorrectly translated into technical specification surveillance procedures and the actual tank level calculations had to be reperformed to assure historical TS requirements were met. This is similar to example 3.i in Appendix E of Manual Chapter 0612, Power Reactor Inspection Reports. The finding was determined to be of very low safety significance (Green), and is being

dispositioned as a Non-Cited Violation, based on licensee analysis that determined no loss of safety function for the EDGs. This finding regarding the failure to identify the incorrect calculations and the subsequent error in the TS surveillance procedure is related to the licensee's Problem Identification and Resolution process.

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

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

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## **Miscellaneous**

Last modified : March 02, 2004

## Millstone 3

# 1Q/2004 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems



**Significance:** Sep 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ADEQUATELY EVALUATE AND CORRECT AN IDENTIFIED DEGRADATION OF THE SERVICE WATER (SW) PUMP/MOTOR COUPLING**

The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, for the failure to evaluate and correct an identified condition adverse to quality (physical degradation) associated with the "B" service water (SW) pump/motor coupling. The inspectors found that the licensee had not properly evaluated a degraded condition of the "B" SW pump/motor coupling and associated fasteners after a condition report documented the "B" SW pump packing and coupling degradation. Subsequently, the licensee declared the pump inoperable and replaced the coupling.

This finding is more than minor because the failure to evaluate the identified degradation of a mitigating system, and to take corrective actions, would have allowed further degradation and affected operability of the system. The finding is associated with the equipment performance attribute of the mitigating systems cornerstone and the objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. However, the finding was determined to be of very low safety significance based on the as-found condition and an analysis of the existing degradation that concluded the SW pump was capable of meeting its safety function.

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

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

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## Miscellaneous

Last modified : May 05, 2004

## Millstone 3

### 2Q/2004 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Mar 31, 2004  
**Identified By:** NRC  
**Item Type:** FIN Finding

##### **FAILURE TO IMPLEMENT POST MAINTENANCE TESTING TO IDENTIFY IMPROPERLY PERFORMED VALVE REPAIRS ON INSTRUMENT AIR DRYER SYSTEM**


The inspectors identified a finding for the failure to implement adequate post-maintenance testing following valve repairs on the instrument air system. The post-maintenance test (PMT), as performed by Operations, did not adequately cycle a 4-way valve to ensure maintenance had been performed correctly. As a result of the improper PMT performance, Dominion did not identify the maintenance errors following reinstallation of the 4-way valves prior to declaring the system operable. Subsequently, the instrument air system lost air pressure 4 hours after restoring the system to service. However, the transient was limited because a service air system cross-tie valve opened to restore instrument air pressure. Following the air transient, Dominion performed corrective maintenance, and then implemented a procedure to fully retest the instrument air dryer prior to declaring it operable.

The finding is more than minor because it affected the equipment performance attribute of the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability at power. The failure to specify adequate PMT led directly to a degraded instrument air system and increased the likelihood of a Loss of Instrument Air event. The risk of this finding was determined to be of very low safety significance (Green) because, although the instrument air system vented to atmosphere, the service air system cross-tie valve to the instrument air system opened and air pressure was restored. The instrument air pressure stabilized and recovered such that there was no actual loss of equipment due to the temporary drop in pressure and an actual loss of instrument air did not occur. This finding is related to the cross-cutting issue of Human Performance.

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

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#### Mitigating Systems

**Significance:**  Sep 27, 2003  
**Identified By:** NRC  
**Item Type:** NCV NonCited Violation

##### **FAILURE TO ADEQUATELY EVALUATE AND CORRECT AN IDENTIFIED DEGRADATION OF THE SERVICE WATER (SW) PUMP/MOTOR COUPLING**


The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, for the failure to evaluate and correct an identified condition adverse to quality (physical degradation) associated with the "B" service water (SW) pump/motor coupling. The inspectors found that the licensee had not properly evaluated a degraded condition of the "B" SW pump/motor coupling and associated fasteners after a condition report documented the "B" SW pump packing and coupling degradation. Subsequently, the licensee declared the pump inoperable and replaced the coupling.

This finding is more than minor because the failure to evaluate the identified degradation of a mitigating system, and to take corrective actions, would have allowed further degradation and affected operability of the system. The finding is associated with the equipment performance attribute of the mitigating systems cornerstone and the objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. However, the finding was determined to be of very low safety significance based on the as-found condition and an analysis of the existing degradation that concluded the SW pump was capable of meeting its safety function.

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

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#### Barrier Integrity

**Significance:**  Jun 30, 2004  
**Identified By:** NRC  
**Item Type:** NCV NonCited Violation

##### **INADEQUATE CORRECTIVE ACTIONS TO PREVENT REPETITIVE FAILURES OF THE QSS AND RSS CONTAINMENT ISOLATION CHECK VALVES**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, which requires, in part, that conditions adverse to quality, such as failures, are promptly identified and corrected. Contrary to this requirement, Dominion did not take effective corrective actions to address repetitive failures of local leak rate tests (LLRT) for the quench spray system and recirculation spray system containment isolation check valves. The

inspectors determined that over the span of 8 years, the same known failure mechanism resulted in an approximate 50% LLRT surveillance test failure rate for these check valves. This finding is more than minor because it is associated with the Barrier Integrity cornerstone attribute of structures, systems, and components (SSC)/Barrier Performance - containment isolation SSC reliability. Unacceptable leakage past these check valves resulted in a decrease in operational capability of the containment isolation system and a decrease in reliability of containment isolation SSCs. This violation has been determined to have a very low safety significance since there was not an actual open pathway in the physical integrity of reactor containment. This finding is related to the cross-cutting issue of Problem Identification and Resolution.

Inspection Report# : [2004006\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

**Significance:** N/A Feb 27, 2004

Identified By: NRC

Item Type: FIN Finding

### **PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

The team determined that the licensee was generally effective at identifying discrepant conditions at an appropriate threshold and entering them into the corrective action program. Once entered into the system, issues were usually prioritized appropriately and in a timely fashion; and were properly evaluated commensurate with the safety significance. Overall, the evaluations reasonably identified the causes of the problem, the extent of the condition, and provided for corrective actions to address the causes. However, in some cases, the corrective action program was not effectively used to resolve and prevent problems. There were some instances where issue evaluations, as well as the associated corrective actions, were not effective in resolving problems. There were also some examples in which condition reports were characterized at a lower category than prescribed by the corrective action program.

Inspection Report# : [2004002\(pdf\)](#)

Last modified : September 08, 2004

## Millstone 3

### 3Q/2004 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Mar 31, 2004

Identified By: NRC

Item Type: FIN Finding

##### **FAILURE TO IMPLEMENT POST MAINTENANCE TESTING TO IDENTIFY IMPROPERLY PERFORMED VALVE REPAIRS ON INSTRUMENT AIR DRYER SYSTEM**

The inspectors identified a finding for the failure to implement adequate post-maintenance testing following valve repairs on the instrument air system. The post-maintenance test (PMT), as performed by Operations, did not adequately cycle a 4-way valve to ensure maintenance had been performed correctly. As a result of the improper PMT performance, Dominion did not identify the maintenance errors following reinstallation of the 4-way valves prior to declaring the system operable. Subsequently, the instrument air system lost air pressure 4 hours after restoring the system to service. However, the transient was limited because a service air system cross-tie valve opened to restore instrument air pressure. Following the air transient, Dominion performed corrective maintenance, and then implemented a procedure to fully retest the instrument air dryer prior to declaring it operable.

The finding is more than minor because it affected the equipment performance attribute of the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability at power. The failure to specify adequate PMT led directly to a degraded instrument air system and increased the likelihood of a Loss of Instrument Air event. The risk of this finding was determined to be of very low safety significance (Green) because, although the instrument air system vented to atmosphere, the service air system cross-tie valve to the instrument air system opened and air pressure was restored. The instrument air pressure stabilized and recovered such that there was no actual loss of equipment due to the temporary drop in pressure and an actual loss of instrument air did not occur. This finding is related to the cross-cutting issue of Human Performance.

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

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#### Mitigating Systems

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

##### **FAILURE TO PROPERLY IMPLEMENT TS 3.8.3.2, ONSITE POWER DISTRIBUTION - SHUTDOWN**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.8.3.2, Onsite Power Distribution - Shutdown, for the failure to enter Technical Specifications following the loss of a vital inverter. The required actions were to immediately stop all reactivity additions. However, operators failed to stop both a plant heatup and reactor coolant system (RCS) dilutions (hydrazine addition), which resulted in positive reactivity additions to the reactor. Dominion specified operator training to reinforce the management expectation for completing procedures, however, additional corrective actions will be specified in an upcoming revision to the Licensee Event Report based on the issues identified by the inspectors in the finding description. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the human performance attribute of the Mitigating System Cornerstone and the objective of ensuring the availability of systems to respond to initiating events to prevent undesirable circumstances. The failure of the vital inverter resulted in an electrical lineup that did not meet the TS requirements for one complete train of electrical buses. Additionally, the failure to recognize the need to enter TS precluded taking corrective actions to prevent adding positive reactivity with this electrical lineup. Several positive reactivity additions from heatup and RCS dilutions occurred as a result. The finding is of very low safety significance because the reactivity addition from the heatup and the dilutions was small compared to the reactivity needed for criticality. Additionally, the finding did not increase the likelihood of a loss of RCS inventory, degrade Dominion's ability to add inventory if needed, or degrade the ability to recover the residual heat removal system if it was lost. This finding is related to the cross-cutting issue of Human Performance.

Inspection Report# : [2004007\(pdf\)](#)

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

##### **DOMINION FAILED TO ESTABLISH PRECAUTIONS AND PREREQUISITES TO PREVENT PLANT CONFIGURATION CHANGES THAT COULD LEAD TO AIR ENTRAINMENT IN THE RHR SYSTEM**

The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1a for the failure to adequately implement procedures for

venting the reactor coolant system (RCS) and the residual heat removal (RHR) system. On May 28, 2004, Dominion conducted a quarterly vent and valve lineup of the "A" train of the RHR system in which air was vented from several vent valves. The inspectors investigated whether the voids in the "A" train of the RHR system and portions of suction piping leading to both trains of the safety injection (SI) and charging systems would have adversely affected these systems' ability to respond to a small break loss of coolant accident (SBLOCA). The inspectors reviewed the engineering technical evaluation and determined that the amount of air in the RHR system did not adversely impact the RHR pumps, SI pumps, or the charging pumps. The inspectors reviewed Dominion's root cause investigation and determined that the cause of the entrapped air was due to securing one of the two RHR pumps on April 28, 2004, during the RCS sweep and vent procedure following completion of the refueling outage. Dominion revised the RCS sweep and vent procedure to add a precaution to avoid securing an RHR pump during this procedure. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and the objective to ensure availability of systems that respond to initiating events to prevent undesirable consequences. The entrapped air had the potential to make the "A" RHR pump, SI pumps, and charging pumps inoperable. The finding is of very low safety significance because it did not represent an actual loss of safety function of the RHR, SI, or charging system since the amount of air identified in these systems would not have prevented them from functioning. This finding is related to the cross-cutting issue of Human Performance.

Inspection Report# : [2004007\(pdf\)](#)

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## Barrier Integrity

**Significance:**  Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE CORRECTIVE ACTIONS TO PREVENT REPETITIVE FAILURES OF THE QSS AND RSS CONTAINMENT ISOLATION CHECK VALVES**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, which requires, in part, that conditions adverse to quality, such as failures, are promptly identified and corrected. Contrary to this requirement, Dominion did not take effective corrective actions to address repetitive failures of local leak rate tests (LLRT) for the quench spray system and recirculation spray system containment isolation check valves. The inspectors determined that over the span of 8 years, the same known failure mechanism resulted in an approximate 50% LLRT surveillance test failure rate for these check valves. This finding is more than minor because it is associated with the Barrier Integrity cornerstone attribute of structures, systems, and components (SSC)/Barrier Performance - containment isolation SSC reliability. Unacceptable leakage past these check valves resulted in a decrease in operational capability of the containment isolation system and a decrease in reliability of containment isolation SSCs. This violation has been determined to have a very low safety significance since there was not an actual open pathway in the physical integrity of reactor containment. This finding is related to the cross-cutting issue of Problem Identification and Resolution.

Inspection Report# : [2004006\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous



**Significance:** N/A Feb 27, 2004

Identified By: NRC

Item Type: FIN Finding

**PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

The team determined that the licensee was generally effective at identifying discrepant conditions at an appropriate threshold and entering them into the corrective action program. Once entered into the system, issues were usually prioritized appropriately and in a timely fashion; and were properly evaluated commensurate with the safety significance. Overall, the evaluations reasonably identified the causes of the problem, the extent of the condition, and provided for corrective actions to address the causes. However, in some cases, the corrective action program was not effectively used to resolve and prevent problems. There were some instances where issue evaluations, as well as the associated corrective actions, were not effective in resolving problems. There were also some examples in which condition reports were characterized at a lower category than prescribed by the corrective action program.

Inspection Report# : [2004002\(pdf\)](#)

Last modified : December 29, 2004

## Millstone 3

### 4Q/2004 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Mar 31, 2004

Identified By: NRC

Item Type: FIN Finding

#### **FAILURE TO IMPLEMENT POST MAINTENANCE TESTING TO IDENTIFY IMPROPERLY PERFORMED VALVE REPAIRS ON INSTRUMENT AIR DRYER SYSTEM**

The inspectors identified a finding for the failure to implement adequate post-maintenance testing following valve repairs on the instrument air system. The post-maintenance test (PMT), as performed by Operations, did not adequately cycle a 4-way valve to ensure maintenance had been performed correctly. As a result of the improper PMT performance, Dominion did not identify the maintenance errors following reinstallation of the 4-way valves prior to declaring the system operable. Subsequently, the instrument air system lost air pressure 4 hours after restoring the system to service. However, the transient was limited because a service air system cross-tie valve opened to restore instrument air pressure. Following the air transient, Dominion performed corrective maintenance, and then implemented a procedure to fully retest the instrument air dryer prior to declaring it operable.

The finding is more than minor because it affected the equipment performance attribute of the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability at power. The failure to specify adequate PMT led directly to a degraded instrument air system and increased the likelihood of a Loss of Instrument Air event. The risk of this finding was determined to be of very low safety significance (Green) because, although the instrument air system vented to atmosphere, the service air system cross-tie valve to the instrument air system opened and air pressure was restored. The instrument air pressure stabilized and recovered such that there was no actual loss of equipment due to the temporary drop in pressure and an actual loss of instrument air did not occur. This finding is related to the cross-cutting issue of Human Performance.

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

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#### Mitigating Systems

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROPERLY IMPLEMENT TS 3.8.3.2, ONSITE POWER DISTRIBUTION - SHUTDOWN**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.8.3.2, Onsite Power Distribution - Shutdown, for the failure to enter Technical Specifications following the loss of a vital inverter. The required actions were to immediately stop all reactivity additions. However, operators failed to stop both a plant heatup and reactor coolant system (RCS) dilutions (hydrazine addition), which resulted in positive reactivity additions to the reactor. Dominion specified operator training to reinforce the management expectation for completing procedures, however, additional corrective actions will be specified in an upcoming revision to the Licensee Event Report based on the issues identified by the inspectors in the finding description. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the human performance attribute of the Mitigating System Cornerstone and the objective of ensuring the availability of systems to respond to initiating events to prevent undesirable circumstances. The failure of the vital inverter resulted in an electrical lineup that did not meet the TS requirements for one complete train of electrical buses. Additionally, the failure to recognize the need to enter TS precluded taking corrective actions to prevent adding positive reactivity with this electrical lineup. Several positive reactivity additions from heatup and RCS dilutions occurred as a result. The finding is of very low safety significance because the reactivity addition from the heatup and the dilutions was small compared to the reactivity needed for criticality. Additionally, the finding did not increase the likelihood of a loss of RCS inventory, degrade Dominion's ability to add inventory if needed, or degrade the ability to recover the residual heat removal system if it was lost. This finding is related to the cross-cutting issue of Human Performance.

Inspection Report# : [2004007\(pdf\)](#)

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DOMINION FAILED TO ESTABLISH PRECAUTIONS AND PREREQUISITES TO PREVENT PLANT CONFIGURATION CHANGES THAT COULD LEAD TO AIR ENTRAINMENT IN THE RHR SYSTEM**

The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1a for the failure to adequately implement procedures for

venting the reactor coolant system (RCS) and the residual heat removal (RHR) system. On May 28, 2004, Dominion conducted a quarterly vent and valve lineup of the "A" train of the RHR system in which air was vented from several vent valves. The inspectors investigated whether the voids in the "A" train of the RHR system and portions of suction piping leading to both trains of the safety injection (SI) and charging systems would have adversely affected these systems' ability to respond to a small break loss of coolant accident (SBLOCA). The inspectors reviewed the engineering technical evaluation and determined that the amount of air in the RHR system did not adversely impact the RHR pumps, SI pumps, or the charging pumps. The inspectors reviewed Dominion's root cause investigation and determined that the cause of the entrapped air was due to securing one of the two RHR pumps on April 28, 2004, during the RCS sweep and vent procedure following completion of the refueling outage. Dominion revised the RCS sweep and vent procedure to add a precaution to avoid securing an RHR pump during this procedure. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and the objective to ensure availability of systems that respond to initiating events to prevent undesirable consequences. The entrapped air had the potential to make the "A" RHR pump, SI pumps, and charging pumps inoperable. The finding is of very low safety significance because it did not represent an actual loss of safety function of the RHR, SI, or charging system since the amount of air identified in these systems would not have prevented them from functioning. This finding is related to the cross-cutting issue of Human Performance.

Inspection Report# : [2004007\(pdf\)](#)

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## Barrier Integrity

**G**

**Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE CORRECTIVE ACTIONS TO PREVENT REPETITIVE FAILURES OF THE QSS AND RSS CONTAINMENT ISOLATION CHECK VALVES**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, which requires, in part, that conditions adverse to quality, such as failures, are promptly identified and corrected. Contrary to this requirement, Dominion did not take effective corrective actions to address repetitive failures of local leak rate tests (LLRT) for the quench spray system and recirculation spray system containment isolation check valves. The inspectors determined that over the span of 8 years, the same known failure mechanism resulted in an approximate 50% LLRT surveillance test failure rate for these check valves. This finding is more than minor because it is associated with the Barrier Integrity cornerstone attribute of structures, systems, and components (SSC)/Barrier Performance - containment isolation SSC reliability. Unacceptable leakage past these check valves resulted in a decrease in operational capability of the containment isolation system and a decrease in reliability of containment isolation SSCs. This violation has been determined to have a very low safety significance since there was not an actual open pathway in the physical integrity of reactor containment. This finding is related to the cross-cutting issue of Problem Identification and Resolution.

Inspection Report# : [2004006\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

**Significance:** N/A Feb 27, 2004

Identified By: NRC

Item Type: FIN Finding

**PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

The team determined that the licensee was generally effective at identifying discrepant conditions at an appropriate threshold and entering them into the corrective action program. Once entered into the system, issues were usually prioritized appropriately and in a timely fashion; and were properly evaluated commensurate with the safety significance. Overall, the evaluations reasonably identified the causes of the problem, the extent of the condition, and provided for corrective actions to address the causes. However, in some cases, the corrective action program was not effectively used to resolve and prevent problems. There were some instances where issue evaluations, as well as the associated corrective actions, were not effective in resolving problems. There were also some examples in which condition reports were characterized at a lower category than prescribed by the corrective action program.

Inspection Report# : [2004002\(pdf\)](#)

Last modified : March 09, 2005

## Millstone 3

# 1Q/2005 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:**  Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO PROMPTLY EVALUATE AND CORRECT A DEGRADED CONDITION ASSOCIATED WITH THE DIVIDER PLATE FOR ALL THREE RPCCW HXS**

The inspector identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take prompt and appropriate corrective actions to address a condition adverse to quality. Specifically, Dominion did not promptly evaluate and correct a degraded condition associated with the divider plate for all three reactor plant component cooling water (RPCCW) heat exchangers (HXs). The inspector determined that this issue was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone, and it potentially affected the objective to ensure the availability and reliability of the RPCCW HXs. The finding was of very low safety significance (Green), because the finding was a qualification deficiency confirmed not to result in loss of a function. The issue was similarly of very low risk in the Initiating Events cornerstone because the finding did not increase the likelihood of a reactor trip or a loss of service water (SW) event. The finding was associated with the cross-cutting area of problem identification and resolution (PI&R) in that Dominion's inadequate evaluation and untimely corrective actions for a degraded condition potentially affected the RPCCW HXs.

Inspection Report# : [2005002\(pdf\)](#)

**Significance:**  Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ADEQUATELY IMPLEMENT TESTING PROCEDURES FOR RESTORING THE "a" EDG TO SERVICE**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to adequately implement post-maintenance test (PMT) procedures for restoring the "A" emergency diesel generator (EDG) to service following maintenance of the neutral breaker. On March 1, 2005, Dominion conducted maintenance and double testing of the "A" EDG neutral breaker. The Maintenance Department turned the breaker over to Operations for final post-maintenance testing and restoration. After racking in the breaker, Operations noted that the red light on the front of the EDG neutral breaker panel did not light as expected. Contrary to the PMT acceptance criteria, Operations assessed that the PMT was satisfactorily completed and exited the EDG technical specification. The oncoming shift investigated and determined the red light was not lit because there was a problem with the neutral breaker trip circuit. Operations declared the EDG inoperable and re-entered the EDG technical specification. This issue was more than minor because it was associated with the reliability of the "A" EDG. The inspectors determined that the finding was of very low safety significance (Green) because it did not involve a design or qualification deficiency, represent an actual loss of safety function of the "A" EDG, or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Human Performance in that Dominion personnel signed the PMT as satisfactory and restored the EDG neutral breaker to an operable status although the acceptance criteria was not met.

Inspection Report# : [2005002\(pdf\)](#)

**Significance:**  Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO TAKE PROMPT CORRECTIVE ACTIONS TO DETERMINE THE EXTENT OF CONDITION OF AIR TRAPPED IN THE RHR SUCTION AND DISCHARGE PIPING**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," which requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. From May to October 2004, Dominion failed to properly assess and correct a degraded "A" Residual Heat Removal (RHR) system during an extent of condition examination for air found in the RHR discharge piping. Specifically, after discovering a significant amount of air in the "A" RHR piping system in May 2004, Dominion vented the system but did not adequately evaluate whether the corrective actions were effective in removing air from the RHR heat-exchanger tubing. As a result, Dominion did not evaluate the effect of the remaining air on the RHR and high pressure injection systems. Dominion subsequently instituted compensatory measures to vent the suction piping after every RHR pump run and performed a special procedure to flush the air out of the heat exchanger. This finding was more than minor because it affected the equipment

performance attribute and the availability, reliability, and capability objective of the Mitigating system cornerstone. Specifically, Dominion's extent of condition evaluation did not determine that a significant volume of air remained in the "A" RHR heat exchanger tubing even though air was found in several other sections of piping subsequent to their initial corrective actions. This air could have caused the "A" RHR pump to become inoperable if enough air had migrated to the suction of the RHR pump and could have adversely affected high pressure injection pumps if air had migrated to crossover piping. This finding was determined to be of very low safety significance (Green) since an actual loss of RHR would not have occurred with the amount of air identified and no air pockets were subsequently identified in crossover piping to the charging and high pressure injection systems; the finding did not involve a design or qualification deficiency; or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Problem Identification and Resolution in that Dominion failed to perform an adequate extent-of-condition review to fully evaluate the effect of air that had been introduced into the "A" RHR system.  
Inspection Report# : [2005002\(pdf\)](#)

**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROPERLY IMPLEMENT TS 3.8.3.2, ONSITE POWER DISTRIBUTION - SHUTDOWN**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.8.3.2, Onsite Power Distribution - Shutdown, for the failure to enter Technical Specifications following the loss of a vital inverter. The required actions were to immediately stop all reactivity additions. However, operators failed to stop both a plant heatup and reactor coolant system (RCS) dilutions (hydrazine addition), which resulted in positive reactivity additions to the reactor. Dominion specified operator training to reinforce the management expectation for completing procedures, however, additional corrective actions will be specified in an upcoming revision to the Licensee Event Report based on the issues identified by the inspectors in the finding description. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the human performance attribute of the Mitigating System Cornerstone and the objective of ensuring the availability of systems to respond to initiating events to prevent undesirable circumstances. The failure of the vital inverter resulted in an electrical lineup that did not meet the TS requirements for one complete train of electrical buses. Additionally, the failure to recognize the need to enter TS precluded taking corrective actions to prevent adding positive reactivity with this electrical lineup. Several positive reactivity additions from heatup and RCS dilutions occurred as a result. The finding is of very low safety significance because the reactivity addition from the heatup and the dilutions was small compared to the reactivity needed for criticality. Additionally, the finding did not increase the likelihood of a loss of RCS inventory, degrade Dominion's ability to add inventory if needed, or degrade the ability to recover the residual heat removal system if it was lost. This finding is related to the cross-cutting issue of Human Performance.  
Inspection Report# : [2004007\(pdf\)](#)

**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**DOMINION FAILED TO ESTABLISH PRECAUTIONS AND PREREQUISITES TO PREVENT PLANT CONFIGURATION CHANGES THAT COULD LEAD TO AIR ENTRAINMENT IN THE RHR SYSTEM**

The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1a for the failure to adequately implement procedures for venting the reactor coolant system (RCS) and the residual heat removal (RHR) system. On May 28, 2004, Dominion conducted a quarterly vent and valve lineup of the "A" train of the RHR system in which air was vented from several vent valves. The inspectors investigated whether the voids in the "A" train of the RHR system and portions of suction piping leading to both trains of the safety injection (SI) and charging systems would have adversely affected these systems' ability to respond to a small break loss of coolant accident (SBLOCA). The inspectors reviewed the engineering technical evaluation and determined that the amount of air in the RHR system did not adversely impact the RHR pumps, SI pumps, or the charging pumps. The inspectors reviewed Dominion's root cause investigation and determined that the cause of the entrapped air was due to securing one of the two RHR pumps on April 28, 2004, during the RCS sweep and vent procedure following completion of the refueling outage. Dominion revised the RCS sweep and vent procedure to add a precaution to avoid securing an RHR pump during this procedure. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and the objective to ensure availability of systems that respond to initiating events to prevent undesirable consequences. The entrapped air had the potential to make the "A" RHR pump, SI pumps, and charging pumps inoperable. The finding is of very low safety significance because it did not represent an actual loss of safety function of the RHR, SI, or charging system since the amount of air identified in these systems would not have prevented them from functioning. This finding is related to the cross-cutting issue of Human Performance.  
Inspection Report# : [2004007\(pdf\)](#)

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## Barrier Integrity

**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ADEQUATELY PERFORM POST-MAINTENANCE TESTING ON HYDROGEN RECOMBINER**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.6.4.2, "Electric Hydrogen Recombiners," which requires that

two independent hydrogen recombiner systems remain Operable. On February 22, 2005, Dominion performed maintenance on the "A" train hydrogen monitor. On February 23, 2005, Dominion identified that pipe fittings for the "A" train hydrogen monitor had been disassembled, however, a post-maintenance test had not been conducted to prove operability of the system. Dominion performed a leak test on February 24, 2005, however, the test failed. Dominions' investigation determined that the leakage was from a mechanical joint that had been worked on December 2, 2004, but that this joint had not been disturbed during the February 22, 2005, maintenance. Additionally, Dominion determined that following the work in December 2004 no post-maintenance leak test had been performed to verify system operability. The inspectors identified that the leakage would have resulted in the shutdown of the "A" hydrogen recombiner, under post-accident conditions. Therefore, the train would not have been considered operable from December 2, 2004 to March 1, 2005. Following the identification of the failed joint, Dominion repaired the joint, leak tested the system, and restored the "A" train hydrogen monitor to service. This issue was more than minor because it was associated with the Barrier Integrity cornerstone attribute of configuration control in that it affected containment boundary preservation and maintaining containment design parameters. The failure to specify adequate PMT resulted in loose mechanical joints in the system not being detected which would have allowed an open pathway to the atmosphere from containment during post accident conditions. Additionally, Dominion postulated that the post accident leakage from these joints would have caused a radiation monitor alarm which would have isolated the "A" hydrogen recombiner. This violation was evaluated using an IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," Phase 2 analysis, and was determined to be of very low safety significance (Green). Specifically, the leak was not of the magnitude to recycle the containment atmosphere in a 24 hour period, post event. This finding was related to the cross-cutting issue of Human Performance in that Dominion failed to adequately perform post-maintenance testing to ensure incorrect maintenance activities were identified prior to returning the hydrogen monitor to service.

Inspection Report# : [2005002\(pdf\)](#)

G

**Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE CORRECTIVE ACTIONS TO PREVENT REPETITIVE FAILURES OF THE QSS AND RSS CONTAINMENT ISOLATION CHECK VALVES**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, which requires, in part, that conditions adverse to quality, such as failures, are promptly identified and corrected. Contrary to this requirement, Dominion did not take effective corrective actions to address repetitive failures of local leak rate tests (LLRT) for the quench spray system and recirculation spray system containment isolation check valves. The inspectors determined that over the span of 8 years, the same known failure mechanism resulted in an approximate 50% LLRT surveillance test failure rate for these check valves. This finding is more than minor because it is associated with the Barrier Integrity cornerstone attribute of structures, systems, and components (SSC)/Barrier Performance - containment isolation SSC reliability. Unacceptable leakage past these check valves resulted in a decrease in operational capability of the containment isolation system and a decrease in reliability of containment isolation SSCs. This violation has been determined to have a very low safety significance since there was not an actual open pathway in the physical integrity of reactor containment. This finding is related to the cross-cutting issue of Problem Identification and Resolution.

Inspection Report# : [2004006\(pdf\)](#)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

[Physical Protection](#) information not publicly available.

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## **Miscellaneous**



Last modified : June 17, 2005

## Millstone 3

### 2Q/2005 Plant Inspection Findings

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#### Initiating Events

**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO EVALUATE EXCEEDING SPECIFIED FIRE LOADING LIMIT FOR MAIN STEAM VALVE ENCLOSURE**

The inspectors identified a non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area. The inspectors determined that the failure to properly evaluate the transient combustibles for the fire area MSV-1 was more than minor based on a similar example described in Manual Chapter 0612, "Power Reactor Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, the fire loading exceeded the fire hazard analysis and was not properly evaluated. This finding is associated with the initiating event cornerstone and involves the fire initiator attribute of the cornerstone. The safety significance of the finding was determined to be low based on the plywood being fire retardant and the increase in the fire loading remained significantly less than the maximum allowed by the higher severity classification of "low". This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of the fire areas and permits nor the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**LESS THAN ADEQUATE CORRECTIVE ACTIONS FOR POTENTIAL RCS PRESSURE BOUNDARY DEGRADATION DUE TO BORIC ACID CORROSION**

The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that DNC's did not promptly identify and correct a condition adverse to quality involving boric acid leaks in containment. The finding was more than minor because it affected the Initiating Events 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; if left uncorrected it could become a more significant concern, such as excessive leakage or the loss of RCS integrity. In addition, this performance deficiency is related to the cross-cutting area of problem identification and resolution in two respects. First, after approximately six days and several containment entries, DNC had not identified the presence of 12 additional boric acid leaks. Second, although aware of the leak on a loop drain isolation valve, DNC did not re-evaluate or resolve the leakage impact on adjacent safety-related SSCs until questioned by the inspectors. This finding was determined to be Green (very low safety significance) based on IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The leakage is characterized as a LOCA initiator, but assuming worst case degradation, the leakage would not have resulted in exceeding a TS limit for identified RCS leakage or have adversely impacted other mitigating systems.

Inspection Report# : [2005012\(pdf\)](#)

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#### Mitigating Systems

**G****Significance:** May 18, 2005

Identified By: NRC

Item Type: FIN Finding

**IMPROPER EVENT DIAGNOSIS LED TO E-PLAN DECLARATION**

The inspectors identified a Green finding because procedure MP-14-MMM, Revision 006-01, "Operations" was not adequately implemented. The team identified problems with crew diagnosis and communications during the event which led to an emergency plan declaration when actual conditions for that declaration did not exist. This NRC-identified finding is considered to be of more than minor safety significance because if left uncorrected, ineffective monitoring and diagnosis of plant conditions during significant plant events could lead to a more significant safety concern. In addition, this performance deficiency is related to the cross cutting area of human performance in that, during the actual event, the operating crew did not diagnose that the MSSVs were functioning as designed and crew briefings did not provide a complete perspective of known plant conditions. This finding was not suitable for the an NRC SDP evaluation, but was reviewed by NRC management in accordance with IMC 0612, Section 05.04c and determined to be of very low safety significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT APPROPRIATE PMS ON THE TDAFW PUMP CONTROL VALVE**

The inspectors identified a Green non-cited violation of TS 6.8.1 regarding the deletion an 18-month control valve PM for TDAFW pump in August 2000 without performing a thorough change evaluation per CBM 105, Revision 004-03, Preventive Maintenance Program. This performance deficiency was a primary contributor to the TDAFW pump overspeed trip. This NRC-identified finding was of more than minor safety significance because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the PM was not completed, the reliability of the TDAFW pump was adversely affected. In evaluating this finding, the Significance Determination Process (SDP) (Phase 1) screening identified that a SDP workbook (Phase 2) evaluation was needed because the TDAFW pump was potentially inoperable in excess of its TS Allowed Outage Time of three days. Since the Phase 2 evaluation exceeded a risk threshold, an NRC Region I Senior Reactor Analyst (SRA) conducted a Phase 3 evaluation to more accurately account for the exposure time and to appropriately credit operator actions to recover the TDAFW pump after it automatically tripped on April 17. The Phase 3 evaluation determined that this finding represented a change in core damage probability of low to mid E-7, which is of very low risk significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **EOP E-0 STEP NOT PERFORMED AS REQUIRED**

The inspectors identified a Green non-cited violation of Technical Specification (TS) 6.8.1 because the operating crew did not take control of reactor coolant system (RCS) temperature in accordance with Step 21 of Emergency Operating Procedure (EOP), E-0, "Reactor Trip or Safety Injection". Consequently, the main steam safety valves (MSSVs) automatically operated to control RCS temperature for approximately 30 minutes longer than was necessary. This NRC-identified finding is considered to be of more than minor significance because it adversely impacts the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the unnecessary cycling of the MSSVs increased the chance that a previously cycled MSSV would not open or would fail to reset following an additional opening. The finding was determined to be Green (very low safety significance) in accordance with IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **SIMULATOR RESPONSE DID NOT ADEQUATELY MODEL MSSV RESPONSE**

The inspectors identified a Green non-cited violation for failure of the Millstone Unit 3 simulator to correctly model main steam safety valve operation as required by 10 CFR 55.46(c)(1), "Plant-Referenced Simulators." This NRC- identified finding is more than minor because it affected the human performance attribute of the mitigating systems cornerstone. This finding was evaluated using the Operator Requalification Human Performance SDP (IMC 0609 Appendix I) because it is a requalification training issue related to simulator fidelity. The SDP, Appendix I, Block 12, requires the inspector to determine if deviations between the plant and simulator could result in negative training or could have a negative impact on operator actions. "Negative Training" is defined, in a later version of the standard (ANSI 3.5-1993), as "training on a simulator whose configuration or performance leads the operator to incorrect response or understanding of the reference unit." During the event of April 17, 2005, operators were influenced by negative training on the simulator to erroneously believe that a safety valve in the plant was stuck open when it was actually still functioning as designed.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FALSE OR MISLEADING CONTROL ROOM INDICATIONS**

The inspectors identified a Green non-cited violation in that DNC did not comply with 10 CFR 50, Appendix B, Criterion III, "Design Control," regarding the suitability of a control room indicator in providing information needed by operators to ensure appropriate decision making while implementing emergency operating procedures. This violation is related to the misleading control room indication for Charging/Safety Injection (CHG/SI) flow indication which led operators to take improper actions in EOP E-0, "Reactor Trip or Safety Injection" because the flow indicator (3SIH-FI917), despite the existence of adequate injection flow to the core, indicated zero gallons per minute (GPM) flow. This self-revealing finding was of more than minor safety significance because it 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. The finding was determined to be Green (very low safety significance) based upon IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The inspectors determined that the finding

represented a design deficiency that did not result in a loss function per Generic Letter (GL) 91-18, Revision 1.  
Inspection Report# : [2005012\(pdf\)](#)

**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY EVALUATE AND CORRECT A DEGRADED CONDITION ASSOCIATED WITH THE DIVIDER PLATE FOR ALL THREE RPCCW HXS**

The inspector identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take prompt and appropriate corrective actions to address a condition adverse to quality. Specifically, Dominion did not promptly evaluate and correct a degraded condition associated with the divider plate for all three reactor plant component cooling water (RPCCW) heat exchangers (HXs). The inspector determined that this issue was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone, and it potentially affected the objective to ensure the availability and reliability of the RPCCW HXs. The finding was of very low safety significance (Green), because the finding was a qualification deficiency confirmed not to result in loss of a function. The issue was similarly of very low risk in the Initiating Events cornerstone because the finding did not increase the likelihood of a reactor trip or a loss of service water (SW) event. The finding was associated with the cross-cutting area of problem identification and resolution (PI&R) in that Dominion's inadequate evaluation and untimely corrective actions for a degraded condition potentially affected the RPCCW HXs.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ADEQUATELY IMPLEMENT TESTING PROCEDURES FOR RESTORING THE "A" EDG TO SERVICE**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to adequately implement post-maintenance test (PMT) procedures for restoring the "A" emergency diesel generator (EDG) to service following maintenance of the neutral breaker. On March 1, 2005, Dominion conducted maintenance and double testing of the "A" EDG neutral breaker. The Maintenance Department turned the breaker over to Operations for final post-maintenance testing and restoration. After racking in the breaker, Operations noted that the red light on the front of the EDG neutral breaker panel did not light as expected. Contrary to the PMT acceptance criteria, Operations assessed that the PMT was satisfactorily completed and exited the EDG technical specification. The oncoming shift investigated and determined the red light was not lit because there was a problem with the neutral breaker trip circuit. Operations declared the EDG inoperable and re-entered the EDG technical specification. This issue was more than minor because it was associated with the reliability of the "A" EDG. The inspectors determined that the finding was of very low safety significance (Green) because it did not involve a design or qualification deficiency, represent an actual loss of safety function of the "A" EDG, or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Human Performance in that Dominion personnel signed the PMT as satisfactory and restored the EDG neutral breaker to an operable status although the acceptance criteria was not met.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO TAKE PROMPT CORRECTIVE ACTIONS TO DETERMINE THE EXTENT OF CONDITION OF AIR TRAPPED IN THE RHR SUCTION AND DISCHARGE PIPING**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," which requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. From May to October 2004, Dominion failed to properly assess and correct a degraded "A" Residual Heat Removal (RHR) system during an extent of condition examination for air found in the RHR discharge piping. Specifically, after discovering a significant amount of air in the "A" RHR piping system in May 2004, Dominion vented the system but did not adequately evaluate whether the corrective actions were effective in removing air from the RHR heat-exchanger tubing. As a result, Dominion did not evaluate the effect of the remaining air on the RHR and high pressure injection systems. Dominion subsequently instituted compensatory measures to vent the suction piping after every RHR pump run and performed a special procedure to flush the air out of the heat exchanger. This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating system cornerstone. Specifically, Dominion's extent of condition evaluation did not determine that a significant volume of air remained in the "A" RHR heat exchanger tubing even though air was found in several other sections of piping subsequent to their initial corrective actions. This air could have caused the "A" RHR pump to become inoperable if enough air had migrated to the suction of the RHR pump and could have adversely affected high pressure injection pumps if air had migrated to crossover piping. This finding was determined to be of very low safety significance (Green) since an actual loss of RHR would not have occurred with the amount of air identified and no air pockets were subsequently identified in crossover piping to the charging and high pressure injection systems; the finding did not involve a design or qualification deficiency; or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Problem Identification and Resolution in that Dominion failed to perform an adequate extent-of-condition review to fully evaluate the effect of air that had been introduced into the "A" RHR system.

Inspection Report# : [2005002\(pdf\)](#)

G**Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROPERLY IMPLEMENT TS 3.8.3.2, ONSITE POWER DISTRIBUTION - SHUTDOWN**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.8.3.2, Onsite Power Distribution - Shutdown, for the failure to enter Technical Specifications following the loss of a vital inverter. The required actions were to immediately stop all reactivity additions. However, operators failed to stop both a plant heatup and reactor coolant system (RCS) dilutions (hydrazine addition), which resulted in positive reactivity additions to the reactor. Dominion specified operator training to reinforce the management expectation for completing procedures, however, additional corrective actions will be specified in an upcoming revision to the Licensee Event Report based on the issues identified by the inspectors in the finding description. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the human performance attribute of the Mitigating System Cornerstone and the objective of ensuring the availability of systems to respond to initiating events to prevent undesirable circumstances. The failure of the vital inverter resulted in an electrical lineup that did not meet the TS requirements for one complete train of electrical buses. Additionally, the failure to recognize the need to enter TS precluded taking corrective actions to prevent adding positive reactivity with this electrical lineup. Several positive reactivity additions from heatup and RCS dilutions occurred as a result. The finding is of very low safety significance because the reactivity addition from the heatup and the dilutions was small compared to the reactivity needed for criticality. Additionally, the finding did not increase the likelihood of a loss of RCS inventory, degrade Dominion's ability to add inventory if needed, or degrade the ability to recover the residual heat removal system if it was lost. This finding is related to the cross-cutting issue of Human Performance.

Inspection Report# : [2004007\(pdf\)](#)G**Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**DOMINION FAILED TO ESTABLISH PRECAUTIONS AND PREREQUISITES TO PREVENT PLANT CONFIGURATION CHANGES THAT COULD LEAD TO AIR ENTRAINMENT IN THE RHR SYSTEM**

The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1a for the failure to adequately implement procedures for venting the reactor coolant system (RCS) and the residual heat removal (RHR) system. On May 28, 2004, Dominion conducted a quarterly vent and valve lineup of the "A" train of the RHR system in which air was vented from several vent valves. The inspectors investigated whether the voids in the "A" train of the RHR system and portions of suction piping leading to both trains of the safety injection (SI) and charging systems would have adversely affected these systems' ability to respond to a small break loss of coolant accident (SBLOCA). The inspectors reviewed the engineering technical evaluation and determined that the amount of air in the RHR system did not adversely impact the RHR pumps, SI pumps, or the charging pumps. The inspectors reviewed Dominion's root cause investigation and determined that the cause of the entrapped air was due to securing one of the two RHR pumps on April 28, 2004, during the RCS sweep and vent procedure following completion of the refueling outage. Dominion revised the RCS sweep and vent procedure to add a precaution to avoid securing an RHR pump during this procedure. Dominion has entered this issue into their corrective action program. This issue is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and the objective to ensure availability of systems that respond to initiating events to prevent undesirable consequences. The entrapped air had the potential to make the "A" RHR pump, SI pumps, and charging pumps inoperable. The finding is of very low safety significance because it did not represent an actual loss of safety function of the RHR, SI, or charging system since the amount of air identified in these systems would not have prevented them from functioning. This finding is related to the cross-cutting issue of Human Performance.

Inspection Report# : [2004007\(pdf\)](#)

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## Barrier Integrity

G**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ADEQUATELY PERFORM POST-MAINTENANCE TESTING ON HYDROGEN RECOMBINER**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.6.4.2, "Electric Hydrogen Recombiners," which requires that two independent hydrogen recombiner systems remain Operable. On February 22, 2005, Dominion performed maintenance on the "A" train hydrogen monitor. On February 23, 2005, Dominion identified that pipe fittings for the "A" train hydrogen monitor had been disassembled, however, a post-maintenance test had not been conducted to prove operability of the system. Dominion performed a leak test on February 24, 2005, however, the test failed. Dominion's investigation determined that the leakage was from a mechanical joint that had been worked on December 2, 2004, but that this joint had not been disturbed during the February 22, 2005, maintenance. Additionally, Dominion determined that following the work in December 2004 no post-maintenance leak test had been performed to verify system operability. The inspectors identified that the leakage would have resulted in the shutdown of the "A" hydrogen recombiner, under post-accident conditions. Therefore, the train would not have been considered operable from December 2, 2004 to March 1, 2005. Following the identification of the failed joint, Dominion repaired the joint, leak tested the system, and restored the "A" train hydrogen monitor to service. This issue was more than minor because it was associated with the Barrier Integrity cornerstone attribute of configuration control in that it affected containment boundary preservation and maintaining containment design parameters. The failure to specify adequate PMT resulted in loose mechanical joints in the

system not being detected which would have allowed an open pathway to the atmosphere from containment during post accident conditions. Additionally, Dominion postulated that the post accident leakage from these joints would have caused a radiation monitor alarm which would have isolated the "A" hydrogen recombiner. This violation was evaluated using an IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," Phase 2 analysis, and was determined to be of very low safety significance (Green). Specifically, the leak was not of the magnitude to recycle the containment atmosphere in a 24 hour period, post event. This finding was related to the cross-cutting issue of Human Performance in that Dominion failed to adequately perform post-maintenance testing to ensure incorrect maintenance activities were identified prior to returning the hydrogen monitor to service.

Inspection Report# : [2005002\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

Last modified : August 24, 2005



## Millstone 3

### 3Q/2005 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **FAILURE TO EVALUATE EXCEEDING SPECIFIED FIRE LOADING LIMIT FOR MAIN STEAM VALVE ENCLOSURE**

The inspectors identified a non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area. The inspectors determined that the failure to properly evaluate the transient combustibles for the fire area MSV-1 was more than minor based on a similar example described in Manual Chapter 0612, "Power Reactor Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, the fire loading exceeded the fire hazard analysis and was not properly evaluated. This finding is associated with the initiating event cornerstone and involves the fire initiator attribute of the cornerstone. The safety significance of the finding was determined to be low based on the plywood being fire retardant and the increase in the fire loading remained significantly less than the maximum allowed by the higher severity classification of "low". This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of the fire areas and permits nor the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years.

Inspection Report# : [2005003\(pdf\)](#)

**Significance:**  May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **LESS THAN ADEQUATE CORRECTIVE ACTIONS FOR POTENTIAL RCS PRESSURE BOUNDARY DEGRADATION DUE TO BORIC ACID CORROSION**

The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that DNC's did not promptly identify and correct a condition adverse to quality involving boric acid leaks in containment. The finding was more than minor because it affected the Initiating Events 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; if left uncorrected it could become a more significant concern, such as excessive leakage or the loss of RCS integrity. In addition, this performance deficiency is related to the cross-cutting area of problem identification and resolution in two respects. First, after approximately six days and several containment entries, DNC had not identified the presence of 12 additional boric acid leaks. Second, although aware of the leak on a loop drain isolation valve, DNC did not re-evaluate or resolve the leakage impact on adjacent safety-related SSCs until questioned by the inspectors. This finding was determined to be Green (very low safety significance) based on IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The leakage is characterized as a LOCA initiator, but assuming worst case degradation, the leakage would not have resulted in exceeding a TS limit for identified RCS leakage or have adversely impacted other mitigating systems.

Inspection Report# : [2005012\(pdf\)](#)

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#### Mitigating Systems

**Significance:**  May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **FAILURE TO IMPLEMENT APPROPRIATE PMS ON THE TDAFW PUMP CONTROL VALVE**

The inspectors identified a Green non-cited violation of TS 6.8.1 regarding the deletion of an 18-month control valve PM for TDAFW pump in August 2000 without performing a thorough change evaluation per CBM 105, Revision 004-03, Preventive Maintenance Program. This performance deficiency was a primary contributor to the TDAFW pump overspeed trip. This NRC-identified finding was of more than minor safety significance because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the PM was not completed, the reliability of the TDAFW pump was adversely affected. In evaluating this finding, the Significance Determination Process (SDP) (Phase 1) screening identified that a SDP workbook (Phase 2) evaluation was needed because the TDAFW pump was potentially inoperable in excess of its TS Allowed Outage Time of three days. Since the Phase 2 evaluation exceeded a risk threshold, an NRC Region I Senior Reactor Analyst (SRA)



conducted a Phase 3 evaluation to more accurately account for the exposure time and to appropriately credit operator actions to recover the TDAFW pump after it automatically tripped on April 17. The Phase 3 evaluation determined that this finding represented a change in core damage probability of low to mid E-7, which is of very low risk significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: FIN Finding

#### **IMPROPER EVENT DIAGNOSIS LED TO E-PLAN DECLARATION**

The inspectors identified a Green finding because procedure MP-14-MMM, Revision 006-01, "Operations" was not adequately implemented. The team identified problems with crew diagnosis and communications during the event which led to an emergency plan declaration when actual conditions for that declaration did not exist. This NRC-identified finding is considered to be of more than minor safety significance because if left uncorrected, ineffective monitoring and diagnosis of plant conditions during significant plant events could lead to a more significant safety concern. In addition, this performance deficiency is related to the cross cutting area of human performance in that, during the actual event, the operating crew did not diagnose that the MSSVs were functioning as designed and crew briefings did not provide a complete perspective of known plant conditions. This finding was not suitable for the an NRC SDP evaluation, but was reviewed by NRC management in accordance with IMC 0612, Section 05.04c and determined to be of very low safety significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **EOP E-0 STEP NOT PERFORMED AS REQUIRED**

The inspectors identified a Green non-cited violation of Technical Specification (TS) 6.8.1 because the operating crew did not take control of reactor coolant system (RCS) temperature in accordance with Step 21 of Emergency Operating Procedure (EOP), E-0, "Reactor Trip or Safety Injection". Consequently, the main steam safety valves (MSSVs) automatically operated to control RCS temperature for approximately 30 minutes longer than was necessary. This NRC-identified finding is considered to be of more than minor significance because it adversely impacts the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the unnecessary cycling of the MSSVs increased the chance that a previously cycled MSSV would not open or would fail to reseal following an additional opening. The finding was determined to be Green (very low safety significance) in accordance with IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **SIMULATOR RESPONSE DID NOT ADEQUATELY MODEL MSSV RESPONSE**

The inspectors identified a Green non-cited violation for failure of the Millstone Unit 3 simulator to correctly model main steam safety valve operation as required by 10 CFR 55.46(c)(1), "Plant-Referenced Simulators." This NRC- identified finding is more than minor because it affected the human performance attribute of the mitigating systems cornerstone. This finding was evaluated using the Operator Requalification Human Performance SDP (IMC 0609 Appendix I) because it is a requalification training issue related to simulator fidelity. The SDP, Appendix I, Block 12, requires the inspector to determine if deviations between the plant and simulator could result in negative training or could have a negative impact on operator actions. "Negative Training" is defined, in a later version of the standard (ANSI 3.5-1993), as "training on a simulator whose configuration or performance leads the operator to incorrect response or understanding of the reference unit." During the event of April 17, 2005, operators were influenced by negative training on the simulator to erroneously believe that a safety valve in the plant was stuck open when it was actually still functioning as designed.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FALSE OR MISLEADING CONTROL ROOM INDICATIONS**

The inspectors identified a Green non-cited violation in that DNC did not comply with 10 CFR 50, Appendix B, Criterion III, "Design Control," regarding the suitability of a control room indicator in providing information needed by operators to ensure appropriate decision making while implementing emergency operating procedures. This violation is related to the misleading control room indication for Charging/Safety Injection (CHG/SI) flow indication which led operators to take improper actions in EOP E-0, "Reactor Trip or Safety Injection" because the flow indicator (3SIH-FI917), despite the existence of adequate injection flow to the core, indicated zero gallons per minute (GPM) flow. This self-revealing finding was of more than minor safety significance because it 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. The finding was determined to be Green (very low safety significance) based upon IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The inspectors determined that the finding

represented a design deficiency that did not result in a loss function per Generic Letter (GL) 91-18, Revision 1.  
Inspection Report# : [2005012\(pdf\)](#)

**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROMPTLY EVALUATE AND CORRECT A DEGRADED CONDITION ASSOCIATED WITH THE DIVIDER PLATE FOR ALL THREE RPCCW HXS**

The inspector identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take prompt and appropriate corrective actions to address a condition adverse to quality. Specifically, Dominion did not promptly evaluate and correct a degraded condition associated with the divider plate for all three reactor plant component cooling water (RPCCW) heat exchangers (HXs). The inspector determined that this issue was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone, and it potentially affected the objective to ensure the availability and reliability of the RPCCW HXs. The finding was of very low safety significance (Green), because the finding was a qualification deficiency confirmed not to result in loss of a function. The issue was similarly of very low risk in the Initiating Events cornerstone because the finding did not increase the likelihood of a reactor trip or a loss of service water (SW) event. The finding was associated with the cross-cutting area of problem identification and resolution (PI&R) in that Dominion's inadequate evaluation and untimely corrective actions for a degraded condition potentially affected the RPCCW HXs.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ADEQUATELY IMPLEMENT TESTING PROCEDURES FOR RESTORING THE "a" EDG TO SERVICE**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to adequately implement post-maintenance test (PMT) procedures for restoring the "A" emergency diesel generator (EDG) to service following maintenance of the neutral breaker. On March 1, 2005, Dominion conducted maintenance and double testing of the "A" EDG neutral breaker. The Maintenance Department turned the breaker over to Operations for final post-maintenance testing and restoration. After racking in the breaker, Operations noted that the red light on the front of the EDG neutral breaker panel did not light as expected. Contrary to the PMT acceptance criteria, Operations assessed that the PMT was satisfactorily completed and exited the EDG technical specification. The oncoming shift investigated and determined the red light was not lit because there was a problem with the neutral breaker trip circuit. Operations declared the EDG inoperable and re-entered the EDG technical specification. This issue was more than minor because it was associated with the reliability of the "A" EDG. The inspectors determined that the finding was of very low safety significance (Green) because it did not involve a design or qualification deficiency, represent an actual loss of safety function of the "A" EDG, or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Human Performance in that Dominion personnel signed the PMT as satisfactory and restored the EDG neutral breaker to an operable status although the acceptance criteria was not met.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO TAKE PROMPT CORRECTIVE ACTIONS TO DETERMINE THE EXTENT OF CONDITION OF AIR TRAPPED IN THE RHR SUCTION AND DISCHARGE PIPING**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," which requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. From May to October 2004, Dominion failed to properly assess and correct a degraded "A" Residual Heat Removal (RHR) system during an extent of condition examination for air found in the RHR discharge piping. Specifically, after discovering a significant amount of air in the "A" RHR piping system in May 2004, Dominion vented the system but did not adequately evaluate whether the corrective actions were effective in removing air from the RHR heat-exchanger tubing. As a result, Dominion did not evaluate the effect of the remaining air on the RHR and high pressure injection systems. Dominion subsequently instituted compensatory measures to vent the suction piping after every RHR pump run and performed a special procedure to flush the air out of the heat exchanger. This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating system cornerstone. Specifically, Dominion's extent of condition evaluation did not determine that a significant volume of air remained in the "A" RHR heat exchanger tubing even though air was found in several other sections of piping subsequent to their initial corrective actions. This air could have caused the "A" RHR pump to become inoperable if enough air had migrated to the suction of the RHR pump and could have adversely affected high pressure injection pumps if air had migrated to crossover piping. This finding was determined to be of very low safety significance (Green) since an actual loss of RHR would not have occurred with the amount of air identified and no air pockets were subsequently identified in crossover piping to the charging and high pressure injection systems; the finding did not involve a design or qualification deficiency; or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Problem Identification and Resolution in that Dominion failed to perform an adequate extent-of-condition review to fully evaluate the effect of air that had been introduced into the "A" RHR system.

Inspection Report# : [2005002\(pdf\)](#)

## Barrier Integrity

**Significance:**  Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ADEQUATELY PERFORM POST-MAINTENANCE TESTING ON HYDROGEN RECOMBINER**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.6.4.2, "Electric Hydrogen Recombiners," which requires that two independent hydrogen recombiner systems remain Operable. On February 22, 2005, Dominion performed maintenance on the "A" train hydrogen monitor. On February 23, 2005, Dominion identified that pipe fittings for the "A" train hydrogen monitor had been disassembled, however, a post-maintenance test had not been conducted to prove operability of the system. Dominion performed a leak test on February 24, 2005, however, the test failed. Dominions' investigation determined that the leakage was from a mechanical joint that had been worked on December 2, 2004, but that this joint had not been disturbed during the February 22, 2005, maintenance. Additionally, Dominion determined that following the work in December 2004 no post-maintenance leak test had been performed to verify system operability. The inspectors identified that the leakage would have resulted in the shutdown of the "A" hydrogen recombiner, under post-accident conditions. Therefore, the train would not have been considered operable from December 2, 2004 to March 1, 2005. Following the identification of the failed joint, Dominion repaired the joint, leak tested the system, and restored the "A" train hydrogen monitor to service. This issue was more than minor because it was associated with the Barrier Integrity cornerstone attribute of configuration control in that it affected containment boundary preservation and maintaining containment design parameters. The failure to specify adequate PMT resulted in loose mechanical joints in the system not being detected which would have allowed an open pathway to the atmosphere from containment during post accident conditions. Additionally, Dominion postulated that the post accident leakage from these joints would have caused a radiation monitor alarm which would have isolated the "A" hydrogen recombiner. This violation was evaluated using an IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," Phase 2 analysis, and was determined to be of very low safety significance (Green). Specifically, the leak was not of the magnitude to recycle the containment atmosphere in a 24 hour period, post event. This finding was related to the cross-cutting issue of Human Performance in that Dominion failed to adequately perform post-maintenance testing to ensure incorrect maintenance activities were identified prior to returning the hydrogen monitor to service.

Inspection Report# : [2005002\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

Last modified : November 30, 2005

## Millstone 3

### 4Q/2005 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **FAILURE TO EVALUATE EXCEEDING SPECIFIED FIRE LOADING LIMIT FOR MAIN STEAM VALVE ENCLOSURE**

The inspectors identified a non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area. The inspectors determined that the failure to properly evaluate the transient combustibles for the fire area MSV-1 was more than minor based on a similar example described in Manual Chapter 0612, "Power Reactor Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, the fire loading exceeded the fire hazard analysis and was not properly evaluated. This finding is associated with the initiating event cornerstone and involves the fire initiator attribute of the cornerstone. The safety significance of the finding was determined to be low based on the plywood being fire retardant and the increase in the fire loading remained significantly less than the maximum allowed by the higher severity classification of "low". This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of the fire areas and permits nor the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years.

Inspection Report# : [2005003\(pdf\)](#)

**Significance:**  May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **LESS THAN ADEQUATE CORRECTIVE ACTIONS FOR POTENTIAL RCS PRESSURE BOUNDARY DEGRADATION DUE TO BORIC ACID CORROSION**

The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that DNC's did not promptly identify and correct a condition adverse to quality involving boric acid leaks in containment. The finding was more than minor because it affected the Initiating Events 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; if left uncorrected it could become a more significant concern, such as excessive leakage or the loss of RCS integrity. In addition, this performance deficiency is related to the cross-cutting area of problem identification and resolution in two respects. First, after approximately six days and several containment entries, DNC had not identified the presence of 12 additional boric acid leaks. Second, although aware of the leak on a loop drain isolation valve, DNC did not re-evaluate or resolve the leakage impact on adjacent safety-related SSCs until questioned by the inspectors. This finding was determined to be Green (very low safety significance) based on IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The leakage is characterized as a LOCA initiator, but assuming worst case degradation, the leakage would not have resulted in exceeding a TS limit for identified RCS leakage or have adversely impacted other mitigating systems.

Inspection Report# : [2005012\(pdf\)](#)

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#### Mitigating Systems

**Significance:**  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **FAILURE TO PROPERLY ASSESS AND CORRECT KNOWN WATER LEAKAGE INTO THE "B" EDG ROCKER ARM LUBE OIL SYSTEM**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to properly assess compensatory actions and to take timely actions to correct the introduction of water into the Unit 3 'B' EDG rocker arm (RA) lubricating oil (LO) system. Following the discovery of elevated water content in the 'B' EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the EDG was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, and 3) did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the

development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the EDG on September 27, 2005, and the unavailability of the 'B' EDG for approximately 5 days while corrective maintenance was performed. This finding is related to the cross-cutting area of problem identification and resolution in that, once the source of the water contamination had been identified, Dominion did not properly assess compensatory actions and take effective corrective actions to preclude significant water in-leakage into the 'B' EDG RA LO system. The finding was more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and the availability and reliability of the 'B' EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more non-technical specification trains based on a 24 hour probabilistic risk assessment mission time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

Inspection Report# : [2005005\(pdf\)](#)

**G**

**Significance:** Oct 15, 2005

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO ADEQUATELY IMPLEMENT OPERABILITY DETERMINATION PROCEDURE ON THREE OCCASIONS**

The inspectors identified a finding where Dominion did not adequately implement their Operability Determination (OD) procedure on three occasions which affected the basis for operability for degraded conditions identified on safety-related systems. Dominion has initiated corrective actions to conduct an assessment of their current operability determination process, evaluate the assessment results, and implement corrective actions to improve their process. Specifically;

- Dominion did not perform a prompt operability determination for approximately 8 days to evaluate whether a fence installed over the Unit 2 turbine-driven auxiliary feedwater pump (TDAFWP) cubicle high energy line break blowout panel adversely impacted the panel's ability to perform its design function. After investigation, Dominion determined that a supporting engineering evaluation did not exist, declared all three auxiliary feedwater pumps inoperable, and took prompt action to reroute the fencing around the blowout panel.

- Dominion did not revise an operability determination on the Unit 2 charging system when new information discovered during system troubleshooting showed that the basis for the operability determination was in question. Dominion ultimately decided to close the operability determination to previous troubleshooting and maintenance activities associated with the degraded condition.

Dominion described as the basis for operability in a condition report (CR) that a technical evaluation existed that showed that a Unit 3 high pressure safety injection (SIH) pump could meet its mission time with an oil leak of up to six drops per minute. The referenced technical evaluation however, did not discuss mission time, but calculated the time to deplete a high pressure safety injection pump oil reservoir in the presence of a four drop per minute and six drop per minute leak.

This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating System cornerstone. Specifically, Dominion did not adequately evaluate the availability of Mitigating Systems with degraded conditions to ensure their availability to perform the intended safety function. This finding was determined to be of very low safety significance (Green) since there was not a loss of function for the TDAFW and charging system examples and since the SIH pump would have completed its safety function within the Probabilistic Risk Assessment 24 hour evaluation time. This finding is related to the cross-cutting area of Problem Identification and Resolution (PI&R) because of the failure to conduct timely and adequate evaluations of degraded and non-conforming conditions.

Inspection Report# : [2005004\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT APPROPRIATE PMS ON THE TDAFW PUMP CONTROL VALVE**

The inspectors identified a Green non-cited violation of TS 6.8.1 regarding the deletion an 18-month control valve PM for TDAFW pump in August 2000 without performing a thorough change evaluation per CBM 105, Revision 004-03, Preventive Maintenance Program. This performance deficiency was a primary contributor to the TDAFW pump overspeed trip. This NRC-identified finding was of more than minor safety significance because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the PM was not completed, the reliability of the TDAFW pump was adversely affected. In evaluating this finding, the Significance Determination Process (SDP) (Phase 1) screening identified that a SDP workbook (Phase 2) evaluation was needed because the TDAFW pump was potentially inoperable in excess of its TS Allowed Outage Time of three days. Since the Phase 2 evaluation exceeded a risk threshold, an NRC Region I Senior Reactor Analyst (SRA) conducted a Phase 3 evaluation to more accurately account for the exposure time and to appropriately credit operator actions to recover the TDAFW pump after it automatically tripped on April 17. The Phase 3 evaluation determined that this finding represented a change in core damage probability of low to mid E-7, which is of very low risk significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: FIN Finding

**IMPROPER EVENT DIAGNOSIS LED TO E-PLAN DECLARATION**

The inspectors identified a Green finding because procedure MP-14-MMM, Revision 006-01, "Operations" was not adequately implemented. The team identified problems with crew diagnosis and communications during the event which led to an emergency plan declaration when



actual conditions for that declaration did not exist. This NRC-identified finding is considered to be of more than minor safety significance because if left uncorrected, ineffective monitoring and diagnosis of plant conditions during significant plant events could lead to a more significant safety concern. In addition, this performance deficiency is related to the cross cutting area of human performance in that, during the actual event, the operating crew did not diagnose that the MSSVs were functioning as designed and crew briefings did not provide a complete perspective of known plant conditions. This finding was not suitable for the an NRC SDP evaluation, but was reviewed by NRC management in accordance with IMC 0612, Section 05.04c and determined to be of very low safety significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **EOP E-0 STEP NOT PERFORMED AS REQUIRED**

The inspectors identified a Green non-cited violation of Technical Specification (TS) 6.8.1 because the operating crew did not take control of reactor coolant system (RCS) temperature in accordance with Step 21 of Emergency Operating Procedure (EOP), E-0, "Reactor Trip or Safety Injection". Consequently, the main steam safety valves (MSSVs) automatically operated to control RCS temperature for approximately 30 minutes longer than was necessary. This NRC-identified finding is considered to be of more than minor significance because it adversely impacts the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the unnecessary cycling of the MSSVs increased the chance that a previously cycled MSSV would not open or would fail to reseal following an additional opening. The finding was determined to be Green (very low safety significance) in accordance with IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **SIMULATOR RESPONSE DID NOT ADEQUATELY MODEL MSSV RESPONSE**

The inspectors identified a Green non-cited violation for failure of the Millstone Unit 3 simulator to correctly model main steam safety valve operation as required by 10 CFR 55.46(c)(1), "Plant-Referenced Simulators." This NRC- identified finding is more than minor because it affected the human performance attribute of the mitigating systems cornerstone. This finding was evaluated using the Operator Requalification Human Performance SDP (IMC 0609 Appendix I) because it is a requalification training issue related to simulator fidelity. The SDP, Appendix I, Block 12, requires the inspector to determine if deviations between the plant and simulator could result in negative training or could have a negative impact on operator actions. "Negative Training" is defined, in a later version of the standard (ANSI 3.5-1993), as "training on a simulator whose configuration or performance leads the operator to incorrect response or understanding of the reference unit." During the event of April 17, 2005, operators were influenced by negative training on the simulator to erroneously believe that a safety valve in the plant was stuck open when it was actually still functioning as designed.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FALSE OR MISLEADING CONTROL ROOM INDICATIONS**

The inspectors identified a Green non-cited violation in that DNC did not comply with 10 CFR 50, Appendix B, Criterion III, "Design Control," regarding the suitability of a control room indicator in providing information needed by operators to ensure appropriate decision making while implementing emergency operating procedures. This violation is related to the misleading control room indication for Charging/Safety Injection (CHG/SI) flow indication which led operators to take improper actions in EOP E-0, "Reactor Trip or Safety Injection" because the flow indicator (3SIH-FI917), despite the existence of adequate injection flow to the core, indicated zero gallons per minute (GPM) flow. This self-revealing finding was of more than minor safety significance because it 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. The finding was determined to be Green (very low safety significance) based upon IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The inspectors determined that the finding represented a design deficiency that did not result in a loss function per Generic Letter (GL) 91-18, Revision 1.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROMPTLY EVALUATE AND CORRECT A DEGRADED CONDITION ASSOCIATED WITH THE DIVIDER PLATE FOR ALL THREE RPCCW HXS**

The inspector identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take prompt and appropriate corrective actions to address a condition adverse to quality. Specifically, Dominion did not promptly evaluate and correct a degraded condition associated with the divider plate for all three reactor plant component cooling water (RPCCW) heat exchangers

(HXs). The inspector determined that this issue was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone, and it potentially affected the objective to ensure the availability and reliability of the RPCCW HXs. The finding was of very low safety significance (Green), because the finding was a qualification deficiency confirmed not to result in loss of a function. The issue was similarly of very low risk in the Initiating Events cornerstone because the finding did not increase the likelihood of a reactor trip or a loss of service water (SW) event. The finding was associated with the cross-cutting area of problem identification and resolution (PI&R) in that Dominion's inadequate evaluation and untimely corrective actions for a degraded condition potentially affected the RPCCW HXs.

Inspection Report# : [2005002\(pdf\)](#)

**G**

**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ADEQUATELY IMPLEMENT TESTING PROCEDURES FOR RESTORING THE "A" EDG TO SERVICE**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to adequately implement post-maintenance test (PMT) procedures for restoring the "A" emergency diesel generator (EDG) to service following maintenance of the neutral breaker. On March 1, 2005, Dominion conducted maintenance and double testing of the "A" EDG neutral breaker. The Maintenance Department turned the breaker over to Operations for final post-maintenance testing and restoration. After racking in the breaker, Operations noted that the red light on the front of the EDG neutral breaker panel did not light as expected. Contrary to the PMT acceptance criteria, Operations assessed that the PMT was satisfactorily completed and exited the EDG technical specification. The oncoming shift investigated and determined the red light was not lit because there was a problem with the neutral breaker trip circuit. Operations declared the EDG inoperable and re-entered the EDG technical specification. This issue was more than minor because it was associated with the reliability of the "A" EDG. The inspectors determined that the finding was of very low safety significance (Green) because it did not involve a design or qualification deficiency, represent an actual loss of safety function of the "A" EDG, or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Human Performance in that Dominion personnel signed the PMT as satisfactory and restored the EDG neutral breaker to an operable status although the acceptance criteria was not met.

Inspection Report# : [2005002\(pdf\)](#)

**G**

**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO TAKE PROMPT CORRECTIVE ACTIONS TO DETERMINE THE EXTENT OF CONDITION OF AIR TRAPPED IN THE RHR SUCTION AND DISCHARGE PIPING**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," which requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. From May to October 2004, Dominion failed to properly assess and correct a degraded "A" Residual Heat Removal (RHR) system during an extent of condition examination for air found in the RHR discharge piping. Specifically, after discovering a significant amount of air in the "A" RHR piping system in May 2004, Dominion vented the system but did not adequately evaluate whether the corrective actions were effective in removing air from the RHR heat-exchanger tubing. As a result, Dominion did not evaluate the effect of the remaining air on the RHR and high pressure injection systems. Dominion subsequently instituted compensatory measures to vent the suction piping after every RHR pump run and performed a special procedure to flush the air out of the heat exchanger. This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating system cornerstone. Specifically, Dominion's extent of condition evaluation did not determine that a significant volume of air remained in the "A" RHR heat exchanger tubing even though air was found in several other sections of piping subsequent to their initial corrective actions. This air could have caused the "A" RHR pump to become inoperable if enough air had migrated to the suction of the RHR pump and could have adversely affected high pressure injection pumps if air had migrated to crossover piping. This finding was determined to be of very low safety significance (Green) since an actual loss of RHR would not have occurred with the amount of air identified and no air pockets were subsequently identified in crossover piping to the charging and high pressure injection systems; the finding did not involve a design or qualification deficiency; or involve seismic, flooding, or severe weather initiating events. This finding was related to the cross-cutting area of Problem Identification and Resolution in that Dominion failed to perform an adequate extent-of-condition review to fully evaluate the effect of air that had been introduced into the "A" RHR system.

Inspection Report# : [2005002\(pdf\)](#)

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## **Barrier Integrity**

**G**

**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ADEQUATELY PERFORM POST-MAINTENANCE TESTING ON HYDROGEN RECOMBINER**

The inspectors identified a non-cited violation of Technical Specification (TS) 3.6.4.2, "Electric Hydrogen Recombiners," which requires that two independent hydrogen recombiner systems remain Operable. On February 22, 2005, Dominion performed maintenance on the "A" train hydrogen monitor. On February 23, 2005, Dominion identified that pipe fittings for the "A" train hydrogen monitor had been disassembled,



however, a post-maintenance test had not been conducted to prove operability of the system. Dominion performed a leak test on February 24, 2005, however, the test failed. Dominion's investigation determined that the leakage was from a mechanical joint that had been worked on December 2, 2004, but that this joint had not been disturbed during the February 22, 2005, maintenance. Additionally, Dominion determined that following the work in December 2004 no post-maintenance leak test had been performed to verify system operability. The inspectors identified that the leakage would have resulted in the shutdown of the "A" hydrogen recombiner, under post-accident conditions. Therefore, the train would not have been considered operable from December 2, 2004 to March 1, 2005. Following the identification of the failed joint, Dominion repaired the joint, leak tested the system, and restored the "A" train hydrogen monitor to service. This issue was more than minor because it was associated with the Barrier Integrity cornerstone attribute of configuration control in that it affected containment boundary preservation and maintaining containment design parameters. The failure to specify adequate PMT resulted in loose mechanical joints in the system not being detected which would have allowed an open pathway to the atmosphere from containment during post accident conditions. Additionally, Dominion postulated that the post accident leakage from these joints would have caused a radiation monitor alarm which would have isolated the "A" hydrogen recombiner. This violation was evaluated using an IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," Phase 2 analysis, and was determined to be of very low safety significance (Green). Specifically, the leak was not of the magnitude to recycle the containment atmosphere in a 24 hour period, post event. This finding was related to the cross-cutting issue of Human Performance in that Dominion failed to adequately perform post-maintenance testing to ensure incorrect maintenance activities were identified prior to returning the hydrogen monitor to service.

Inspection Report# : [2005002\(pdf\)](#)

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## Emergency Preparedness

**Significance:**  Dec 31, 2005

Identified By: NRC

Item Type: FIN Finding

### INEFFECTIVE CORRECTIVE ACTIONS TO PREVENT SERO QUALIFICATION LAPSES

The inspector identified a Green finding for the failure to take effective corrective actions in that since 2004, on several occasions, staff assigned to the site emergency response organization (SERO) did not maintain their qualifications current. The corrective actions taken to prevent recurrence of this problem were not effective as highlighted by repeat examples of lapsed SERO qualifications. Individuals identified during the inspection with the lapsed qualifications were immediately removed from the SERO callout system until their training was completed. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that the corrective actions taken were not effective in preventing reoccurrence. The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. Specifically, Dominion's corrective actions to ensure personnel maintained their SERO qualifications current were ineffective and did not prevent recurrence. This finding is not suitable for SDP evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : [2005005\(pdf\)](#)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

Last modified : March 03, 2006

## Millstone 3

# 1Q/2006 Plant Inspection Findings

### Initiating Events

**G****Significance:** Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**MISPOSITIONING OF BORIC ACID VALVES RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION**

A Green self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures", was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel mis-positioned three valves which isolated the "A" boric acid gravity feed flow path and the "A" boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14)

Inspection Report# : [2006002\(pdf\)](#)**G****Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM EVALUATIONS ON BORIC ACID LEAKS**

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for Dominion's failure to follow Boric Acid Corrosion Control Program (BACCP) procedures. Specifically, plant personnel routinely failed to perform boric acid leak evaluations as required per Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program," despite the specified threshold having been met. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and it affects the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The licensee entered this condition into the corrective action program as CR-06-02088. This finding was characterized as a loss-of-coolant-accident (LOCA) initiator and was determined to be of very low safety significance (Green) because it did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigation systems resulting in a total loss of their safety function. Corrective actions included a planned revision to the Boric Acid Corrosion Control program to ensure evaluations are performed and documented. In addition, the licensee conducted a Boric Acid Corrosion Control program peer review using another nuclear power station boric acid program owner. This finding is related to the cross-cutting area of human performance in that on at least 22 occasions, station personnel did not follow established station procedures requiring boric acid evaluation.

Inspection Report# : [2006006\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO EVALUATE EXCEEDING SPECIFIED FIRE LOADING LIMIT FOR MAIN STEAM VALVE ENCLOSURE**

The inspectors identified a non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area. The inspectors determined that the failure to properly evaluate the transient combustibles for the fire area MSV-1 was more than minor based on a similar example described in Manual Chapter 0612, "Power Reactor Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, the fire loading exceeded the fire hazard analysis and was not properly evaluated. This finding is associated with the initiating event cornerstone and involves the fire initiator attribute of the cornerstone. The safety significance of the finding was determined to be low based on the plywood being fire retardant and the increase in the fire loading remained significantly less than the maximum allowed by the higher severity classification of "low". This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of the fire areas and permits nor the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years.

Inspection Report# : [2005003\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

### **LESS THAN ADEQUATE CORRECTIVE ACTIONS FOR POTENTIAL RCS PRESSURE BOUNDARY DEGRADATION DUE TO BORIC ACID CORROSION**

The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that DNC's did not promptly identify and correct a condition adverse to quality involving boric acid leaks in containment. The finding was more than minor because it affected the Initiating Events 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; if left uncorrected it could become a more significant concern, such as excessive leakage or the loss of RCS integrity. In addition, this performance deficiency is related to the cross-cutting area of problem identification and resolution in two respects. First, after approximately six days and several containment entries, DNC had not identified the presence of 12 additional boric acid leaks. Second, although aware of the leak on a loop drain isolation valve, DNC did not re-evaluate or resolve the leakage impact on adjacent safety-related SSCs until questioned by the inspectors. This finding was determined to be Green (very low safety significance) based on IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The leakage is characterized as a LOCA initiator, but assuming worst case degradation, the leakage would not have resulted in exceeding a TS limit for identified RCS leakage or have adversely impacted other mitigating systems.

Inspection Report# : [2005012\(pdf\)](#)

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## Mitigating Systems

**G**

**Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO INCLUDE ACCEPTANCE CRITERIA IN MAINTENANCE PROCEDURES**

The inspectors identified a Green NCV of 10 CFR 50, Criterion V, "Instructions, Procedures, and Drawings" for failing to include appropriate acceptance criteria associated with the measurement of the Unit 3 TDAFW pump governor control valve stuffing box inner diameter in the applicable maintenance procedure. In addition, the maintenance procedure did not specify the equipment required to measure the control valve stem/gap measurements and did not require the recording of measurements needed to verify the maintenance activity had been satisfactorily accomplished in accordance with vendor requirements. The licensee evaluated this issue for immediate operability and entered the issue into their corrective action program as CR-06-02043 and CR-06-02044. Corrective actions included revising the maintenance procedure to update the clearance values as well as instructing maintenance system team personnel on the event relative to utilizing the correct MT&E for the work scope. This finding is more than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone. Specifically, if left uncorrected, the finding would become a more significant safety concern as governor stuffing box internal diameters continued to increase resulting in additional control valve stem binding issues and associated TDAFW pump overspeed and failure events. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, represent an actual loss of system or TDAFW pump safety function, or involve seismic, flooding, or severe weather initiating events. This finding is related to the cross-cutting aspect of problem identification and resolution in that the licensee failed to translate appropriate vendor acceptance criteria into the TDAFW governor control valve maintenance procedure despite receipt of new vendor requirements which were published and available in 1999.

Inspection Report# : [2006006\(pdf\)](#)

**G**

**Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO EVALUATE AND CORRECT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH TDAFW PUMP**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to take effective corrective action to prevent a repeat failure of the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump. Specifically, following identification and documentation of excessive internal stuffing box wear, which was identified following an overspeed trip event that occurred in April 2005, the licensee failed to fully evaluate this condition which was later documented as a contributing cause to a recurring failure that occurred on January 9, 2006. The licensee entered this condition into their corrective action program as CR-06-00244. Corrective actions for this issue included repacking of the TDAFW pump governor control valve, repair of a cam plate, and plans to conduct a stuffing box repair within three months of the January 2006 pump failure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the degraded stuffing box was not adequately evaluated and corrected in April 2005, the reliability of the TDAFW pump was adversely affected. Following Phase 1, 2, and 3 SDP evaluations, this finding was determined to be of very low safety significance (Green) since TDAFW pump recovery credit was given during a restart attempt that would occur during a design basis event. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not fully evaluate and correct an identified degraded condition.

Inspection Report# : [2006006\(pdf\)](#)**Significance:**  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROPERLY ASSESS AND CORRECT KNOWN WATER LEAKAGE INTO THE "B" EDG ROCKER ARM LUBE OIL SYSTEM**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to properly assess compensatory actions and to take timely actions to correct the introduction of water into the Unit 3 'B' EDG rocker arm (RA) lubricating oil (LO) system. Following the discovery of elevated water content in the 'B' EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the EDG was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, and 3) did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the EDG on September 27, 2005, and the unavailability of the 'B' EDG for approximately 5 days while corrective maintenance was performed. This finding is related to the cross-cutting area of problem identification and resolution in that, once the source of the water contamination had been identified, Dominion did not properly assess compensatory actions and take effective corrective actions to preclude significant water in-leakage into the 'B' EDG RA LO system. The finding was more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and the availability and reliability of the 'B' EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more non-technical specification trains based on a 24 hour probabilistic risk assessment mission time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

Inspection Report# : [2005005\(pdf\)](#)**Significance:**  Oct 15, 2005

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO ADEQUATELY IMPLEMENT OPERABILITY DETERMINATION PROCEDURE ON THREE OCCASIONS**

The inspectors identified a finding where Dominion did not adequately implement their Operability Determination (OD) procedure on three occasions which affected the basis for operability for degraded conditions identified on safety-related systems. Dominion has initiated corrective actions to conduct an assessment of their current operability determination process, evaluate the assessment results, and implement corrective actions to improve their process. Specifically;

- Dominion did not perform a prompt operability determination for approximately 8 days to evaluate whether a fence installed over the Unit 2 turbine-driven auxiliary feedwater pump (TDAFWP) cubicle high energy line break blowout panel adversely impacted the panel's ability to perform its design function. After investigation, Dominion determined that a supporting engineering evaluation did not exist, declared all three auxiliary feedwater pumps inoperable, and took prompt action to reroute the fencing around the blowout panel.
- Dominion did not revise an operability determination on the Unit 2 charging system when new information discovered during system troubleshooting showed that the basis for the operability determination was in question. Dominion ultimately decided to close the operability determination to previous troubleshooting and maintenance activities associated with the degraded condition.

Dominion described as the basis for operability in a condition report (CR) that a technical evaluation existed that showed that a Unit 3 high pressure safety injection (SIH) pump could meet its mission time with an oil leak of up to six drops per minute. The referenced technical evaluation however, did not discuss mission time, but calculated the time to deplete a high pressure safety injection pump oil reservoir in the presence of a four drop per minute and six drop per minute leak.

This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating System cornerstone. Specifically, Dominion did not adequately evaluate the availability of Mitigating Systems with degraded conditions to ensure their availability to perform the intended safety function. This finding was determined to be of very low safety significance (Green) since there was not a loss of function for the TDAFW and charging system examples and since the SIH pump would have completed its safety function within the Probabilistic Risk Assessment 24 hour evaluation time. This finding is related to the cross-cutting area of Problem Identification and Resolution (PI&R) because of the failure to conduct timely and adequate evaluations of degraded and non-conforming conditions.

Inspection Report# : [2005004\(pdf\)](#)**Significance:**  May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT APPROPRIATE PMS ON THE TDAFW PUMP CONTROL VALVE**

The inspectors identified a Green non-cited violation of TS 6.8.1 regarding the deletion an 18-month control valve PM for TDAFW pump in August 2000 without performing a thorough change evaluation per CBM 105, Revision 004-03, Preventive Maintenance Program. This performance deficiency was a primary contributor to the TDAFW pump overspeed trip. This NRC-identified finding was of more than minor safety significance because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the PM was not completed, the reliability

of the TDAFW pump was adversely affected. In evaluating this finding, the Significance Determination Process (SDP) (Phase 1) screening identified that a SDP workbook (Phase 2) evaluation was needed because the TDAFW pump was potentially inoperable in excess of its TS Allowed Outage Time of three days. Since the Phase 2 evaluation exceeded a risk threshold, an NRC Region I Senior Reactor Analyst (SRA) conducted a Phase 3 evaluation to more accurately account for the exposure time and to appropriately credit operator actions to recover the TDAFW pump after it automatically tripped on April 17. The Phase 3 evaluation determined that this finding represented a change in core damage probability of low to mid E-7, which is of very low risk significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: FIN Finding

#### **IMPROPER EVENT DIAGNOSIS LED TO E-PLAN DECLARATION**

The inspectors identified a Green finding because procedure MP-14-MMM, Revision 006-01, "Operations" was not adequately implemented. The team identified problems with crew diagnosis and communications during the event which led to an emergency plan declaration when actual conditions for that declaration did not exist. This NRC-identified finding is considered to be of more than minor safety significance because if left uncorrected, ineffective monitoring and diagnosis of plant conditions during significant plant events could lead to a more significant safety concern. In addition, this performance deficiency is related to the cross cutting area of human performance in that, during the actual event, the operating crew did not diagnose that the MSSVs were functioning as designed and crew briefings did not provide a complete perspective of known plant conditions. This finding was not suitable for the an NRC SDP evaluation, but was reviewed by NRC management in accordance with IMC 0612, Section 05.04c and determined to be of very low safety significance (Green).

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **EOP E-0 STEP NOT PERFORMED AS REQUIRED**

The inspectors identified a Green non-cited violation of Technical Specification (TS) 6.8.1 because the operating crew did not take control of reactor coolant system (RCS) temperature in accordance with Step 21 of Emergency Operating Procedure (EOP), E-0, "Reactor Trip or Safety Injection". Consequently, the main steam safety valves (MSSVs) automatically operated to control RCS temperature for approximately 30 minutes longer than was necessary. This NRC-identified finding is considered to be of more than minor significance because it adversely impacts the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the unnecessary cycling of the MSSVs increased the chance that a previously cycled MSSV would not open or would fail to reseal following an additional opening. The finding was determined to be Green (very low safety significance) in accordance with IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **SIMULATOR RESPONSE DID NOT ADEQUATELY MODEL MSSV RESPONSE**

The inspectors identified a Green non-cited violation for failure of the Millstone Unit 3 simulator to correctly model main steam safety valve operation as required by 10 CFR 55.46(c)(1), "Plant-Referenced Simulators." This NRC- identified finding is more than minor because it affected the human performance attribute of the mitigating systems cornerstone. This finding was evaluated using the Operator Requalification Human Performance SDP (IMC 0609 Appendix I) because it is a requalification training issue related to simulator fidelity. The SDP, Appendix I, Block 12, requires the inspector to determine if deviations between the plant and simulator could result in negative training or could have a negative impact on operator actions. "Negative Training" is defined, in a later version of the standard (ANSI 3.5-1993), as "training on a simulator whose configuration or performance leads the operator to incorrect response or understanding of the reference unit." During the event of April 17, 2005, operators were influenced by negative training on the simulator to erroneously believe that a safety valve in the plant was stuck open when it was actually still functioning as designed.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** May 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FALSE OR MISLEADING CONTROL ROOM INDICATIONS**

The inspectors identified a Green non-cited violation in that DNC did not comply with 10 CFR 50, Appendix B, Criterion III, "Design Control," regarding the suitability of a control room indicator in providing information needed by operators to ensure appropriate decision making while implementing emergency operating procedures. This violation is related to the misleading control room indication for Charging/Safety Injection (CHG/SI) flow indication which led operators to take improper actions in EOP E-0, "Reactor Trip or Safety Injection" because the flow indicator (3SIH-FI917), despite the existence of adequate injection flow to the core, indicated zero gallons per minute (GPM) flow. This self-revealing finding was of more than minor safety significance because it 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. The finding was determined to be Green (very low safety significance) based upon IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The inspectors determined that the finding represented a design deficiency that did not result in a loss function per Generic Letter (GL) 91-18, Revision 1.

Inspection Report# : [2005012\(pdf\)](#)

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## Barrier Integrity

**Significance:**  Mar 03, 2006  
Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO IMPLEMENT EFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH REPETITIVE LLRT FAILURES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for failure to take adequate corrective actions to prevent repetitive local leak rate test failures associated with the Unit 3 reactor plant chilled water system (CDS) inboard containment isolation valve, 3CDS\*CTV40A. As a result, there was a loss of redundancy which reduced reliability of the containment isolation function. This condition was entered into the licensee's corrective action program as CR-05-10651, a condition report which documented a licensee action to create a plan to resolve the failures. This finding is more than minor because it is associated with the Barrier Integrity Cornerstone objective of maintaining containment functionality and the attribute of structure/system/component (SSC) and Barrier Performance. This finding is of very low safety significance because there was no actual open pathway in the physical integrity of the reactor containment or an actual reduction of the atmospheric pressure control function of the containment. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not implement effective corrective actions to prevent a recurring component failure.

Inspection Report# : [2006006\(pdf\)](#)

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## Emergency Preparedness

**Significance:**  Dec 31, 2005  
Identified By: NRC

Item Type: FIN Finding

### **INEFFECTIVE CORRECTIVE ACTIONS TO PREVENT SERO QUALIFICATION LAPSES**

The inspector identified a Green finding for the failure to take effective corrective actions in that since 2004, on several occasions, staff assigned to the site emergency response organization (SERO) did not maintain their qualifications current. The corrective actions taken to prevent recurrence of this problem were not effective as highlighted by repeat examples of lapsed SERO qualifications. Individuals identified during the inspection with the lapsed qualifications were immediately removed from the SERO callout system until their training was completed. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that the corrective actions taken were not effective in preventing reoccurrence. The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. Specifically, Dominion's corrective actions to ensure personnel maintained their SERO qualifications current were ineffective and did not prevent recurrence. This finding is not suitable for SDP evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : [2005005\(pdf\)](#)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

**Significance:** N/A Mar 03, 2006

Identified By: NRC

Item Type: FIN Finding

### **PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

The inspectors identified that the licensee was effective at identifying problems and entering them into the corrective action program (CAP). The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies were identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and self-assessments were found to be generally effective. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety concerns and issues into the CAP program. However, the inspectors did identify some missed opportunities to identify issues and enter them into their corrective action program. In addition, there were some instances where issue evaluations and corrective actions were not effective in resolving problems. Inspection Report# : [2006006\(pdf\)](#)

Last modified : May 25, 2006



## Millstone 3

### 2Q/2006 Plant Inspection Findings

#### Initiating Events

**G****Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**DID NOT ADEQUATELY EVALUATE A REACTOR PROTECTION SYSTEM SET POINT MODIFICATION**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for an inadequate design change review for a steam generator low-low water level setpoint modification. Specifically, Dominion did not fully consider the impact of the modification on the ability of the steam generator to accommodate operational transients without exceeding a parameter threshold which would require automatic or manual protective action. This led to a reactor trip on December 1, 2005, while conducting a rapid downpower in response to a reactor coolant system leak from the packing of a loop maintenance stop valve that was collected in a drain tank inside primary containment. At 38 percent power, main turbine vibrations increased above allowable values and the turbine was manually tripped. Following the turbine trip, the reactor unexpectedly automatically tripped on the "C" steam generator low-low level trip setpoint. Dominion entered this condition into their corrective action program as CR-06-04788. Corrective actions for this issue included plans to conduct an engineering analysis to determine the new steam generator low-low level trip setpoints and revision of the design change notice and the 10 CFR 50.59 screening. This finding is more than minor because it is associated with the Initiating Events Cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, an inadequate design change review led to an unanticipated reactor trip. This issue is of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding is related to the cross-cutting aspect of human performance in that Dominion's review and decision making process was not effective at identifying possible unintended consequences when making assumptions for a risk significant design change.

Inspection Report# : [2006003\(pdf\)](#)**G****Significance:** Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**MISPOSITIONING OF BORIC ACID VALVES RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION**

A Green self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures", was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel mis-positioned three valves which isolated the "A" boric acid gravity feed flow path and the "A" boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14)

Inspection Report# : [2006002\(pdf\)](#)**G****Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM EVALUATIONS ON BORIC ACID LEAKS**

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for Dominion's failure to follow Boric Acid Corrosion Control Program (BACCP) procedures. Specifically, plant personnel routinely failed to perform boric acid leak evaluations as required per Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program," despite the specified threshold having been met. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and it affects the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The licensee entered this condition into the corrective action program as CR-06-02088. This finding was characterized as a loss-of-coolant-accident (LOCA) initiator and was determined to be of very low safety significance (Green) because it did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigation systems resulting in a total loss of their safety function. Corrective actions included a planned revision to the Boric Acid Corrosion Control program to ensure evaluations are performed and documented. In addition, the licensee conducted a Boric Acid Corrosion Control program peer review using another nuclear power station boric acid program owner. This finding is related to the cross-cutting area of human performance in that on at least 22 occasions, station personnel did not follow established station procedures requiring boric acid evaluation.

Inspection Report# : [2006006\(pdf\)](#)

## Mitigating Systems

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**DID NOT EVALUATE AND CORRECT A SIGNIFICANT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH GRAVITY FEED BORATION LINES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to fully evaluate and correct a significant condition adverse to quality which led to a repeat occurrence of air introduction in the gravity feed boration line. Specifically, following identification and documentation of air in the "A" gravity feed boration line on September 9, 2004, Dominion did not evaluate and correct the cause which then led to a repeat occurrence of air introduction in the "B" gravity feed boration line on April 13, 2006. The inspectors determined that the cause of both events was due to an inadequate chemical and volume control system (CVCS) fill and vent procedure. Dominion entered this condition into their corrective action program as CR-06-03730. Corrective actions for this issue included venting the air from the gravity feed boration line and plans to revise the CVCS fill and vent procedure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, excessive air in the gravity feed lines has the potential to damage the operating charging pump if an emergency boration event were to occur. This finding was determined to be of very low safety significance (Green) since full mitigation credit was given for the availability of redundant emergency boration paths. This finding is related to the cross-cutting aspect of problem identification and resolution in that Dominion did not fully evaluate and correct an identified degraded condition discovered in September 2004, which then recurred in April 2006.

Inspection Report# : [2006003\(pdf\)](#)G**Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO INCLUDE ACCEPTANCE CRITERIA IN MAINTENANCE PROCEDURES**

The inspectors identified a Green NCV of 10 CFR 50, Criterion V, "Instructions, Procedures, and Drawings" for failing to include appropriate acceptance criteria associated with the measurement of the Unit 3 TDAFW pump governor control valve stuffing box inner diameter in the applicable maintenance procedure. In addition, the maintenance procedure did not specify the equipment required to measure the control valve stem/gap measurements and did not require the recording of measurements needed to verify the maintenance activity had been satisfactorily accomplished in accordance with vendor requirements. The licensee evaluated this issue for immediate operability and entered the issue into their corrective action program as CR-06-02043 and CR-06-02044. Corrective actions included revising the maintenance procedure to update the clearance values as well as instructing maintenance system team personnel on the event relative to utilizing the correct MT&E for the work scope. This finding is more than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone. Specifically, if left uncorrected, the finding would become a more significant safety concern as governor stuffing box internal diameters continued to increase resulting in additional control valve stem binding issues and associated TDAFW pump overspeed and failure events. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, represent an actual loss of system or TDAFW pump safety function, or involve seismic, flooding, or severe weather initiating events. This finding is related to the cross-cutting aspect of problem identification and resolution in that the licensee failed to translate appropriate vendor acceptance criteria into the TDAFW governor control valve maintenance procedure despite receipt of new vendor requirements which were published and available in 1999.

Inspection Report# : [2006006\(pdf\)](#)G**Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO EVALUATE AND CORRECT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH TDAFW PUMP**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to take effective corrective action to prevent a repeat failure of the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump. Specifically, following identification and documentation of excessive internal stuffing box wear, which was identified following an overspeed trip event that occurred in April 2005, the licensee failed to fully evaluate this condition which was later documented as a contributing cause to a recurring failure that occurred on January 9, 2006. The licensee entered this condition into their corrective action program as CR-06-00244. Corrective actions for this issue included repacking of the TDAFW pump governor control valve, repair of a cam plate, and plans to conduct a stuffing box repair within three months of the January 2006 pump failure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the degraded stuffing box was not adequately evaluated and corrected in April 2005, the reliability of the TDAFW pump was adversely affected. Following Phase 1, 2, and 3 SDP evaluations, this finding was determined to be of very low safety significance (Green) since TDAFW pump recovery credit was given during a restart attempt that would occur during a design basis event. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not fully evaluate and correct an identified degraded condition.

Inspection Report# : [2006006\(pdf\)](#)

**G****Significance:** Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROPERLY ASSESS AND CORRECT KNOWN WATER LEAKAGE INTO THE "B" EDG ROCKER ARM LUBE OIL SYSTEM**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to properly assess compensatory actions and to take timely actions to correct the introduction of water into the Unit 3 'B' EDG rocker arm (RA) lubricating oil (LO) system.

Following the discovery of elevated water content in the 'B' EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the EDG was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, and 3) did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the EDG on September 27, 2005, and the unavailability of the 'B' EDG for approximately 5 days while corrective maintenance was performed. This finding is related to the cross-cutting area of problem identification and resolution in that, once the source of the water contamination had been identified, Dominion did not properly assess compensatory actions and take effective corrective actions to preclude significant water in-leakage into the 'B' EDG RA LO system. The finding was more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and the availability and reliability of the 'B' EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more non-technical specification trains based on a 24 hour probabilistic risk assessment mission time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

Inspection Report# : [2005005\(pdf\)](#)**G****Significance:** Oct 15, 2005

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO ADEQUATELY IMPLEMENT OPERABILITY DETERMINATION PROCEDURE ON THREE OCCASIONS**

The inspectors identified a finding where Dominion did not adequately implement their Operability Determination (OD) procedure on three occasions which affected the basis for operability for degraded conditions identified on safety-related systems. Dominion has initiated corrective actions to conduct an assessment of their current operability determination process, evaluate the assessment results, and implement corrective actions to improve their process. Specifically;

- Dominion did not perform a prompt operability determination for approximately 8 days to evaluate whether a fence installed over the Unit 2 turbine-driven auxiliary feedwater pump (TDAFWP) cubicle high energy line break blowout panel adversely impacted the panel's ability to perform its design function. After investigation, Dominion determined that a supporting engineering evaluation did not exist, declared all three auxiliary feedwater pumps inoperable, and took prompt action to reroute the fencing around the blowout panel.

- Dominion did not revise an operability determination on the Unit 2 charging system when new information discovered during system troubleshooting showed that the basis for the operability determination was in question. Dominion ultimately decided to close the operability determination to previous troubleshooting and maintenance activities associated with the degraded condition.

Dominion described as the basis for operability in a condition report (CR) that a technical evaluation existed that showed that a Unit 3 high pressure safety injection (SIH) pump could meet its mission time with an oil leak of up to six drops per minute. The referenced technical evaluation however, did not discuss mission time, but calculated the time to deplete a high pressure safety injection pump oil reservoir in the presence of a four drop per minute and six drop per minute leak.

This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating System cornerstone. Specifically, Dominion did not adequately evaluate the availability of Mitigating Systems with degraded conditions to ensure their availability to perform the intended safety function. This finding was determined to be of very low safety significance (Green) since there was not a loss of function for the TDAFW and charging system examples and since the SIH pump would have completed its safety function within the Probabilistic Risk Assessment 24 hour evaluation time. This finding is related to the cross-cutting area of Problem Identification and Resolution (PI&R) because of the failure to conduct timely and adequate evaluations of degraded and non-conforming conditions.

Inspection Report# : [2005004\(pdf\)](#)

## Barrier Integrity

**G****Significance:** Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT EFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH REPETITIVE LLRT FAILURES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for failure to take adequate corrective actions to prevent repetitive local leak rate test failures associated with the Unit 3 reactor plant chilled water system (CDS) inboard containment isolation valve, 3CDS\*CTV40A. As a result, there was a loss of redundancy which reduced reliability of the containment isolation function. This condition was entered into the licensee's corrective action program as CR-05-10651, a condition report which documented a licensee action to create a plan to resolve the failures. This finding is more than minor because it is associated with the Barrier Integrity Cornerstone objective of

maintaining containment functionality and the attribute of structure/system/component (SSC) and Barrier Performance. This finding is of very low safety significance because there was no actual open pathway in the physical integrity of the reactor containment or an actual reduction of the atmospheric pressure control function of the containment. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not implement effective corrective actions to prevent a recurring component failure.

Inspection Report# : [2006006\(pdf\)](#)

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## Emergency Preparedness



**Significance:** Dec 31, 2005

Identified By: NRC

Item Type: FIN Finding

### INEFFECTIVE CORRECTIVE ACTIONS TO PREVENT SERO QUALIFICATION LAPSES

The inspector identified a Green finding for the failure to take effective corrective actions in that since 2004, on several occasions, staff assigned to the site emergency response organization (SERO) did not maintain their qualifications current. The corrective actions taken to prevent recurrence of this problem were not effective as highlighted by repeat examples of lapsed SERO qualifications. Individuals identified during the inspection with the lapsed qualifications were immediately removed from the SERO callout system until their training was completed. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that the corrective actions taken were not effective in preventing reoccurrence. The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. Specifically, Dominion's corrective actions to ensure personnel maintained their SERO qualifications current were ineffective and did not prevent recurrence. This finding is not suitable for SDP evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : [2005005\(pdf\)](#)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

**Significance:** N/A Mar 03, 2006

Identified By: NRC

Item Type: FIN Finding

### PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS

The inspectors identified that the licensee was effective at identifying problems and entering them into the corrective action program (CAP). The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies were identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and self-assessments were found to be generally effective. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety concerns and issues into the CAP program. However, the inspectors did identify some missed opportunities to identify issues and enter them into their corrective action program. In addition, there were some instances where issue evaluations and corrective actions were not effective in resolving problems.

Inspection Report# : [2006006\(pdf\)](#)

Last modified : August 25, 2006

## Millstone 3

# 3Q/2006 Plant Inspection Findings

## Initiating Events

**Significance:**  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **DID NOT ADEQUATELY EVALUATE A REACTOR PROTECTION SYSTEM SET POINT MODIFICATION**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for an inadequate design change review for a steam generator low-low water level setpoint modification. Specifically, Dominion did not fully consider the impact of the modification on the ability of the steam generator to accommodate operational transients without exceeding a parameter threshold which would require automatic or manual protective action. This led to a reactor trip on December 1, 2005, while conducting a rapid downpower in response to a reactor coolant system leak from the packing of a loop maintenance stop valve that was collected in a drain tank inside primary containment. At 38 percent power, main turbine vibrations increased above allowable values and the turbine was manually tripped. Following the turbine trip, the reactor unexpectedly automatically tripped on the "C" steam generator low-low level trip setpoint. Dominion entered this condition into their corrective action program as CR-06-04788. Corrective actions for this issue included plans to conduct an engineering analysis to determine the new steam generator low-low level trip setpoints and revision of the design change notice and the 10 CFR 50.59 screening. This finding is more than minor because it is associated with the Initiating Events Cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, an inadequate design change review led to an unanticipated reactor trip. This issue is of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding is related to the cross-cutting aspect of human performance in that Dominion's review and decision making process was not effective at identifying possible unintended consequences when making assumptions for a risk significant design change.

Inspection Report# : [2006003\(pdf\)](#)

**Significance:**  Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **MISPOSITIONING OF BORIC ACID VALVES RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION**

A Green self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures", was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel mis-positioned three valves which isolated the "A" boric acid gravity feed flow path and the "A" boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14)

Inspection Report# : [2006002\(pdf\)](#)

**Significance:**  Mar 03, 2006

Identified By: NRC



Item Type: NCV NonCited Violation

### **FAILURE TO PERFORM EVALUATIONS ON BORIC ACID LEAKS**

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for Dominion's failure to follow Boric Acid Corrosion Control Program (BACCP) procedures. Specifically, plant personnel routinely failed to perform boric acid leak evaluations as required per Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program," despite the specified threshold having been met. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and it affects the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The licensee entered this condition into the corrective action program as CR-06-02088. This finding was characterized as a loss-of-coolant-accident (LOCA) initiator and was determined to be of very low safety significance (Green) because it did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigation systems resulting in a total loss of their safety function. Corrective actions included a planned revision to the Boric Acid Corrosion Control program to ensure evaluations are performed and documented. In addition, the licensee conducted a Boric Acid Corrosion Control program peer review using another nuclear power station boric acid program owner. This finding is related to the cross-cutting area of human performance in that on at least 22 occasions, station personnel did not follow established station procedures requiring boric acid evaluation.

Inspection Report# : [2006006\(pdf\)](#)

## **Mitigating Systems**

**Significance:**  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **DID NOT EVALUATE AND CORRECT A SIGNIFICANT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH GRAVITY FEED BORATION LINES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to fully evaluate and correct a significant condition adverse to quality which led to a repeat occurrence of air introduction in the gravity feed boration line. Specifically, following identification and documentation of air in the "A" gravity feed boration line on September 9, 2004, Dominion did not evaluate and correct the cause which then led to a repeat occurrence of air introduction in the "B" gravity feed boration line on April 13, 2006. The inspectors determined that the cause of both events was due to an inadequate chemical and volume control system (CVCS) fill and vent procedure. Dominion entered this condition into their corrective action program as CR-06-03730. Corrective actions for this issue included venting the air from the gravity feed boration line and plans to revise the CVCS fill and vent procedure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, excessive air in the gravity feed lines has the potential to damage the operating charging pump if an emergency boration event were to occur. This finding was determined to be of very low safety significance (Green) since full mitigation credit was given for the availability of redundant emergency boration paths. This finding is related to the cross-cutting aspect of problem identification and resolution in that Dominion did not fully evaluate and correct an identified degraded condition discovered in September 2004, which then recurred in April 2006.

Inspection Report# : [2006003\(pdf\)](#)

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO INCLUDE ACCEPTANCE CRITERIA IN MAINTENANCE PROCEDURES**

The inspectors identified a Green NCV of 10 CFR 50, Criterion V, "Instructions, Procedures, and Drawings" for failing to include appropriate acceptance criteria associated with the measurement of the Unit 3 TDAFW pump governor control valve stuffing box inner diameter in the applicable maintenance procedure. In addition, the maintenance procedure did not specify the equipment required to measure the control valve stem/gap measurements and did not require the recording of measurements needed to verify the maintenance activity had been satisfactorily accomplished in accordance with vendor

requirements. The licensee evaluated this issue for immediate operability and entered the issue into their corrective action program as CR-06-02043 and CR-06-02044. Corrective actions included revising the maintenance procedure to update the clearance values as well as instructing maintenance system team personnel on the event relative to utilizing the correct MT&E for the work scope. This finding is more than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone. Specifically, if left uncorrected, the finding would become a more significant safety concern as governor stuffing box internal diameters continued to increase resulting in additional control valve stem binding issues and associated TDAFW pump overspeed and failure events. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, represent an actual loss of system or TDAFW pump safety function, or involve seismic, flooding, or severe weather initiating events. This finding is related to the cross-cutting aspect of problem identification and resolution in that the licensee failed to translate appropriate vendor acceptance criteria into the TDAFW governor control valve maintenance procedure despite receipt of new vendor requirements which were published and available in 1999.

Inspection Report# : [2006006\(pdf\)](#)

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO EVALUATE AND CORRECT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH TDAFW PUMP**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to take effective corrective action to prevent a repeat failure of the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump. Specifically, following identification and documentation of excessive internal stuffing box wear, which was identified following an overspeed trip event that occurred in April 2005, the licensee failed to fully evaluate this condition which was later documented as a contributing cause to a recurring failure that occurred on January 9, 2006. The licensee entered this condition into their corrective action program as CR-06-00244. Corrective actions for this issue included repacking of the TDAFW pump governor control valve, repair of a cam plate, and plans to conduct a stuffing box repair within three months of the January 2006 pump failure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the degraded stuffing box was not adequately evaluated and corrected in April 2005, the reliability of the TDAFW pump was adversely affected. Following Phase 1, 2, and 3 SDP evaluations, this finding was determined to be of very low safety significance (Green) since TDAFW pump recovery credit was given during a restart attempt that would occur during a design basis event. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not fully evaluate and correct an identified degraded condition.

Inspection Report# : [2006006\(pdf\)](#)

**Significance:**  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO PROPERLY ASSESS AND CORRECT KNOWN WATER LEAKAGE INTO THE "B" EDG ROCKER ARM LUBE OIL SYSTEM**

The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to properly assess compensatory actions and to take timely actions to correct the introduction of water into the Unit 3 'B' EDG rocker arm (RA) lubricating oil (LO) system. Following the discovery of elevated water content in the 'B' EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the EDG was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, and 3) did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the EDG on September 27, 2005, and the unavailability of the 'B' EDG for approximately 5 days while corrective maintenance was performed. This finding is related to the cross-cutting area of problem identification and resolution in that, once the source of the water contamination had been identified, Dominion did not properly assess compensatory actions and take effective corrective actions to preclude significant water in-leakage into the 'B' EDG RA LO system. The finding was more than minor because it affected the equipment performance attribute of the mitigating



system cornerstone and the availability and reliability of the 'B' EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more non-technical specification trains based on a 24 hour probabilistic risk assessment mission time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

Inspection Report# : [2005005\(pdf\)](#)

**Significance:**  Oct 15, 2005

Identified By: NRC

Item Type: FIN Finding

### **FAILURE TO ADEQUATELY IMPLEMENT OPERABILITY DETERMINATION PROCEDURE ON THREE OCCASIONS**

The inspectors identified a finding where Dominion did not adequately implement their Operability Determination (OD) procedure on three occasions which affected the basis for operability for degraded conditions identified on safety-related systems. Dominion has initiated corrective actions to conduct an assessment of their current operability determination process, evaluate the assessment results, and implement corrective actions to improve their process. Specifically;

- Dominion did not perform a prompt operability determination for approximately 8 days to evaluate whether a fence installed over the Unit 2 turbine-driven auxiliary feedwater pump (TDAFWP) cubicle high energy line break blowout panel adversely impacted the panel's ability to perform its design function. After investigation, Dominion determined that a supporting engineering evaluation did not exist, declared all three auxiliary feedwater pumps inoperable, and took prompt action to reroute the fencing around the blowout panel.
- Dominion did not revise an operability determination on the Unit 2 charging system when new information discovered during system troubleshooting showed that the basis for the operability determination was in question. Dominion ultimately decided to close the operability determination to previous troubleshooting and maintenance activities associated with the degraded condition.

Dominion described as the basis for operability in a condition report (CR) that a technical evaluation existed that showed that a Unit 3 high pressure safety injection (SIH) pump could meet its mission time with an oil leak of up to six drops per minute. The referenced technical evaluation however, did not discuss mission time, but calculated the time to deplete a high pressure safety injection pump oil reservoir in the presence of a four drop per minute and six drop per minute leak.

This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating System cornerstone. Specifically, Dominion did not adequately evaluate the availability of Mitigating Systems with degraded conditions to ensure their availability to perform the intended safety function. This finding was determined to be of very low safety significance (Green) since there was not a loss of function for the TDAFW and charging system examples and since the SIH pump would have completed its safety function within the Probabilistic Risk Assessment 24 hour evaluation time. This finding is related to the cross-cutting area of Problem Identification and Resolution (PI&R) because of the failure to conduct timely and adequate evaluations of degraded and non-conforming conditions.

Inspection Report# : [2005004\(pdf\)](#)

## **Barrier Integrity**

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO IMPLEMENT EFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH REPETITIVE LLRT FAILURES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for failure to take adequate corrective actions to prevent repetitive local leak rate test failures associated with the Unit 3 reactor plant chilled water system (CDS) inboard containment isolation valve, 3CDS\*CTV40A. As a result, there was a loss of redundancy which reduced reliability of the containment isolation function. This condition was entered into the licensee's corrective action program as CR-05-10651, a condition report which documented a licensee action to create a plan to resolve the failures. This finding is more than minor because it is associated with the Barrier Integrity Cornerstone objective of

maintaining containment functionality and the attribute of structure/system/component (SSC) and Barrier Performance. This finding is of very low safety significance because there was no actual open pathway in the physical integrity of the reactor containment or an actual reduction of the atmospheric pressure control function of the containment. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not implement effective corrective actions to prevent a recurring component failure.

Inspection Report# : [2006006\(pdf\)](#)

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## Emergency Preparedness

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION REQUIRED ACTIONS FOR INOPERABLE CONTAINMENT HIGH RANGE RADIATION MONITORS**

A Green NCV was identified regarding the site engineering organization's failure to evaluate, in a timely manner, the effects that thermally induced currents (TIC) have on the operability of the Unit 3 containment high range radiation monitors (HRRM) (RMS\*RE-04A and RMS\*RE-05A) during a design basis accident, as required by Technical Specification 3.3.3.6. On September 6, 2006, site engineering issued condition report (CR-06-08181), documenting that engineering calculations demonstrated that the Unit 3 containment HRRMs (RMS\*RE-04A and RMS\*RE-05A) would provide false indications due to TICs that would occur following a loss of coolant accident (LOCA). Upon review of the matter, Dominion declared both channels of the Unit-3 containment HRRM monitoring system inoperable on September 6, 2006, in accordance with Technical Specification Action Statement 3.3.3.6. Immediate corrective actions included submitting a Special Report as required by TS 3.3.3.6 and revision of operating procedures to identify alternative methods for monitoring Unit 3 containment radiological conditions, when required. Additionally, Dominion generated CR-06-08340 to identify its untimely response to this condition and affect corrective measures to prevent recurrence. This finding is more than minor because it is associated with the facilities and equipment attribute of the Emergency Preparedness Cornerstone and adversely affects the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using Sheet 1, Failure to Comply, of Inspection Manual Chapter 0609, Appendix B, Emergency Preparedness Significance Determination Process (SDP). The finding is of low safety significance because the performance deficiency was a failure to comply with a non-risk significant planning standard and no planning standard function failure occurred since other parameters could be used to validate the indications from the Unit 3 containment HRRMs. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, Dominion failed to adequately evaluate and correct the condition for impact on operability.

Inspection Report# : [2006004\(pdf\)](#)

**Significance:**  Dec 31, 2005

Identified By: NRC

Item Type: FIN Finding

### **INEFFECTIVE CORRECTIVE ACTIONS TO PREVENT SERO QUALIFICATION LAPSES**

The inspector identified a Green finding for the failure to take effective corrective actions in that since 2004, on several occasions, staff assigned to the site emergency response organization (SERO) did not maintain their qualifications current. The corrective actions taken to prevent recurrence of this problem were not effective as highlighted by repeat examples of lapsed SERO qualifications. Individuals identified during the inspection with the lapsed qualifications were immediately removed from the SERO callout system until their training was completed. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that the corrective actions taken were not effective in preventing reoccurrence. The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. Specifically, Dominion's corrective actions to ensure personnel maintained their SERO qualifications current were ineffective and did not prevent recurrence. This finding is not suitable for SDP evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : [2005005\(pdf\)](#)

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## Occupational Radiation Safety

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### Public Radiation Safety

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ACCOUNT FOR ALL SHIPPED RADIOACTIVE MATERIAL ON THE UNIFORM MANIFEST**

A self-revealing NCV of 10 CFR 20, Appendix G, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest," was identified for failure to list on a shipping manifest all radioactive materials that were shipped to a waste processor. On February 24, 2006, Dominion shipped a spent filter liner (Shipment No. 06-019) to a waste processor. On March 2, 2006, the waste processor notified Dominion that upon opening the liner, two bags, containing contaminated rags and mop heads, were not accounted for on the manifest. This issue was entered into Dominion's corrective action program (CR 06-02234). Corrective action for this issue included informing the waste processor by phone of the correct activity, weight, and volume of this material and providing an amended uniform manifest. The finding is more than minor because it is associated with Public Radiation Safety Cornerstone and involves a failure to comply with NRC regulations. This finding is of very low safety significance because the quantity of radioactive material did not involve under-classifying the shipment's waste (Class C) or the Department of Transportation shipping category (LSA II). This finding is related to the cross-cutting aspect of human performance because Dominion did not adequately implement procedures for preparation of the manifest.

Inspection Report# : [2006004\(pdf\)](#)

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### Physical Protection

[Physical Protection](#) information not publicly available.

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### Miscellaneous

**Significance:** N/A Mar 03, 2006

Identified By: NRC

Item Type: FIN Finding

#### **PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

The inspectors identified that the licensee was effective at identifying problems and entering them into the corrective action program (CAP). The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies were identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and self-assessments were found to be generally effective. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety concerns and issues into the CAP program. However, the inspectors did identify some missed opportunities to identify issues and enter them into their corrective action program. In addition, there were some instances where issue evaluations and corrective actions were not effective in resolving problems.

Inspection Report# : [2006006\(pdf\)](#)

Last modified : December 21, 2006

## Millstone 3

# 4Q/2006 Plant Inspection Findings

## Initiating Events

**Significance:**  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **DID NOT ADEQUATELY EVALUATE A REACTOR PROTECTION SYSTEM SET POINT MODIFICATION**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for an inadequate design change review for a steam generator low-low water level setpoint modification. Specifically, Dominion did not fully consider the impact of the modification on the ability of the steam generator to accommodate operational transients without exceeding a parameter threshold which would require automatic or manual protective action. This led to a reactor trip on December 1, 2005, while conducting a rapid downpower in response to a reactor coolant system leak from the packing of a loop maintenance stop valve that was collected in a drain tank inside primary containment. At 38 percent power, main turbine vibrations increased above allowable values and the turbine was manually tripped. Following the turbine trip, the reactor unexpectedly automatically tripped on the "C" steam generator low-low level trip setpoint. Dominion entered this condition into their corrective action program as CR-06-04788. Corrective actions for this issue included plans to conduct an engineering analysis to determine the new steam generator low-low level trip setpoints and revision of the design change notice and the 10 CFR 50.59 screening. This finding is more than minor because it is associated with the Initiating Events Cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, an inadequate design change review led to an unanticipated reactor trip. This issue is of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding is related to the cross-cutting aspect of human performance in that Dominion's review and decision making process was not effective at identifying possible unintended consequences when making assumptions for a risk significant design change.

Inspection Report# : [2006003](#) (*pdf*)

**Significance:**  Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **MISPOSITIONING OF BORIC ACID VALVES RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION**

A Green self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures", was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel mis-positioned three valves which isolated the "A" boric acid gravity feed flow path and the "A" boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14)

Inspection Report# : [2006002](#) (*pdf*)

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO PERFORM EVALUATIONS ON BORIC ACID LEAKS**

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for Dominion's failure to follow Boric Acid Corrosion Control Program (BACCP) procedures. Specifically, plant personnel routinely failed to perform boric acid leak evaluations as required per Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program," despite the specified threshold having been met. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and it affects the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The licensee entered this condition into the corrective action program as CR-06-02088. This finding was characterized as a loss-of-coolant-accident (LOCA) initiator and was determined to be of very low safety significance (Green) because it did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigation systems resulting in a total loss of their safety function. Corrective actions included a planned revision to the Boric Acid Corrosion Control program to ensure evaluations are performed and documented. In addition, the licensee conducted a Boric Acid Corrosion Control program peer review using another nuclear power station boric acid program owner. This finding is related to the cross-cutting area of human performance in that on at least 22 occasions, station personnel did not follow established station procedures requiring boric acid evaluation.

Inspection Report# : [2006006](#) (*pdf*)

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## **Mitigating Systems**

**Significance:**  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **DID NOT EVALUATE AND CORRECT A SIGNIFICANT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH GRAVITY FEED BORATION LINES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to fully evaluate and correct a significant condition adverse to quality which led to a repeat occurrence of air introduction in the gravity feed boration line. Specifically, following identification and documentation of air in the "A" gravity feed boration line on September 9, 2004, Dominion did not evaluate and correct the cause which then led to a repeat occurrence of air introduction in the "B" gravity feed boration line on April 13, 2006. The inspectors determined that the cause of both events was due to an inadequate chemical and volume control system (CVCS) fill and vent procedure. Dominion entered this condition into their corrective action program as CR-06-03730. Corrective actions for this issue included venting the air from the gravity feed boration line and plans to revise the CVCS fill and vent procedure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, excessive air in the gravity feed lines has the potential to damage the operating charging pump if an emergency boration event were to occur. This finding was determined to be of very low safety significance (Green) since full mitigation credit was given for the availability of redundant emergency boration paths. This finding is related to the cross-cutting aspect of problem identification and resolution in that Dominion did not fully evaluate and correct an identified degraded condition discovered in September 2004, which then recurred in April 2006.

Inspection Report# : [2006003](#) (*pdf*)

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO INCLUDE ACCEPTANCE CRITERIA IN MAINTENANCE PROCEDURES**

The inspectors identified a Green NCV of 10 CFR 50, Criterion V, "Instructions, Procedures, and Drawings" for failing to include appropriate acceptance criteria associated with the measurement of the Unit 3 TDAFW pump governor control valve stuffing box inner diameter in the applicable maintenance procedure. In addition, the maintenance procedure did not specify the equipment required to measure the control valve stem/gap measurements and did not require the recording of measurements needed to verify the maintenance activity had been satisfactorily accomplished in accordance with vendor



requirements. The licensee evaluated this issue for immediate operability and entered the issue into their corrective action program as CR-06-02043 and CR-06-02044. Corrective actions included revising the maintenance procedure to update the clearance values as well as instructing maintenance system team personnel on the event relative to utilizing the correct MT&E for the work scope. This finding is more than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone. Specifically, if left uncorrected, the finding would become a more significant safety concern as governor stuffing box internal diameters continued to increase resulting in additional control valve stem binding issues and associated TDAFW pump overspeed and failure events. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, represent an actual loss of system or TDAFW pump safety function, or involve seismic, flooding, or severe weather initiating events. This finding is related to the cross-cutting aspect of problem identification and resolution in that the licensee failed to translate appropriate vendor acceptance criteria into the TDAFW governor control valve maintenance procedure despite receipt of new vendor requirements which were published and available in 1999.

Inspection Report# : [2006006](#) (*pdf*)

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO EVALUATE AND CORRECT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH TDAFW PUMP**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to take effective corrective action to prevent a repeat failure of the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump. Specifically, following identification and documentation of excessive internal stuffing box wear, which was identified following an overspeed trip event that occurred in April 2005, the licensee failed to fully evaluate this condition which was later documented as a contributing cause to a recurring failure that occurred on January 9, 2006. The licensee entered this condition into their corrective action program as CR-06-00244. Corrective actions for this issue included repacking of the TDAFW pump governor control valve, repair of a cam plate, and plans to conduct a stuffing box repair within three months of the January 2006 pump failure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the degraded stuffing box was not adequately evaluated and corrected in April 2005, the reliability of the TDAFW pump was adversely affected. Following Phase 1, 2, and 3 SDP evaluations, this finding was determined to be of very low safety significance (Green) since TDAFW pump recovery credit was given during a restart attempt that would occur during a design basis event. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not fully evaluate and correct an identified degraded condition.

Inspection Report# : [2006006](#) (*pdf*)

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## **Barrier Integrity**

**Significance:**  Mar 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO IMPLEMENT EFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH REPETITIVE LLRT FAILURES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for failure to take adequate corrective actions to prevent repetitive local leak rate test failures associated with the Unit 3 reactor plant chilled water system (CDS) inboard containment isolation valve, 3CDS\*CTV40A. As a result, there was a loss of redundancy which reduced reliability of the containment isolation function. This condition was entered into the licensee's corrective action program as CR-05-10651, a condition report which documented a licensee action to create a plan to resolve the failures. This finding is more than minor because it is associated with the Barrier Integrity Cornerstone objective of maintaining containment functionality and the attribute of structure/system/component (SSC) and Barrier Performance. This finding is of very low safety significance because there was no actual open pathway in the physical integrity of the reactor containment or an actual reduction of the atmospheric pressure control function of the containment. This finding is



related to the cross-cutting area of problem identification and resolution in that the licensee did not implement effective corrective actions to prevent a recurring component failure.

Inspection Report# : [2006006](#) (*pdf*)

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## Emergency Preparedness

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION REQUIRED ACTIONS FOR INOPERABLE CONTAINMENT HIGH RANGE RADIATION MONITORS**

A Green NCV was identified regarding the site engineering organization's failure to evaluate, in a timely manner, the effects that thermally induced currents (TIC) have on the operability of the Unit 3 containment high range radiation monitors (HRRM) (RMS\*RE-04A and RMS\*RE-05A) during a design basis accident, as required by Technical Specification 3.3.3.6. On September 6, 2006, site engineering issued condition report (CR-06-08181), documenting that engineering calculations demonstrated that the Unit 3 containment HRRMs (RMS\*RE-04A and RMS\*RE-05A) would provide false indications due to TICs that would occur following a loss of coolant accident (LOCA). Upon review of the matter, Dominion declared both channels of the Unit-3 containment HRRM monitoring system inoperable on September 6, 2006, in accordance with Technical Specification Action Statement 3.3.3.6. Immediate corrective actions included submitting a Special Report as required by TS 3.3.3.6 and revision of operating procedures to identify alternative methods for monitoring Unit 3 containment radiological conditions, when required. Additionally, Dominion generated CR-06-08340 to identify its untimely response to this condition and affect corrective measures to prevent recurrence. This finding is more than minor because it is associated with the facilities and equipment attribute of the Emergency Preparedness Cornerstone and adversely affects the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using Sheet 1, Failure to Comply, of Inspection Manual Chapter 0609, Appendix B, Emergency Preparedness Significance Determination Process (SDP). The finding is of low safety significance because the performance deficiency was a failure to comply with a non-risk significant planning standard and no planning standard function failure occurred since other parameters could be used to validate the indications from the Unit 3 containment HRRMs. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, Dominion failed to adequately evaluate and correct the condition for impact on operability.

Inspection Report# : [2006004](#) (*pdf*)

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## Occupational Radiation Safety

## Public Radiation Safety

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ACCOUNT FOR ALL SHIPPED RADIOACTIVE MATERIAL ON THE UNIFORM MANIFEST**

A self-revealing NCV of 10 CFR 20, Appendix G, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest," was identified for failure to list on a shipping manifest all radioactive materials that were shipped to a waste processor. On February 24, 2006, Dominion shipped a spent filter liner (Shipment No. 06-019) to a waste processor. On March 2, 2006, the waste processor notified Dominion that upon opening the liner, two bags, containing contaminated rags and mop heads, were not accounted for on the manifest. This issue was entered into Dominion's corrective action program (CR 06-02234). Corrective action for this issue included informing the

waste processor by phone of the correct activity, weight, and volume of this material and providing an amended uniform manifest. The finding is more than minor because it is associated with Public Radiation Safety Cornerstone and involves a failure to comply with NRC regulations. This finding is of very low safety significance because the quantity of radioactive material did not involve under-classifying the shipment's waste (Class C) or the Department of Transportation shipping category (LSA II). This finding is related to the cross-cutting aspect of human performance because Dominion did not adequately implement procedures for preparation of the manifest.

Inspection Report# : [2006004](#) (*pdf*)

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

**Significance:** N/A Mar 03, 2006

Identified By: NRC

Item Type: FIN Finding

### **PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS**

The inspectors identified that the licensee was effective at identifying problems and entering them into the corrective action program (CAP). The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies were identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and self-assessments were found to be generally effective. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety concerns and issues into the CAP program. However, the inspectors did identify some missed opportunities to identify issues and enter them into their corrective action program. In addition, there were some instances where issue evaluations and corrective actions were not effective in resolving problems.

Inspection Report# : [2006006](#) (*pdf*)

Last modified : March 01, 2007

# Millstone 3

## 1Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT SURVEILLANCE PROCEDURES RESULTED IN A TEMPORARY LOSS OF CONTAINMENT COOLING AND HIGH PRESSURIZER LEVEL TSAS ENTRY**

A Green self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.8.1, "Procedures," was identified because Dominion did not adequately implement procedures while performing a surveillance to test containment isolation slave relays. This resulted in three containment isolation valves repositioning which caused pressurizer level to increase high out of the normal operating band and an isolation of containment cooling. Corrective actions for this issue included performing a level one root cause, revising the surveillance procedure to improve the Operations and Instrumentation & Control coordination of the missed critical step, coaching to the individuals involved in the missed step, and reinforcing good human error prevention techniques. This finding is more than minor because it was associated with the Initiating Event's cornerstone and affected the cornerstone's 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 inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 Significance Determination Process in accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations". Specifically, this finding did not contribute to both the likelihood of a reactor trip and that mitigating systems would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Work Practice component, because Dominion's Work Practice techniques were not effective in ensuring personnel followed a slave relay testing surveillance procedure that resulted in a loss of containment cooling and caused pressurizer level to increase above the TS allowed value.

Inspection Report# : [2007002](#) (*pdf*)

**Significance:**  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **DID NOT ADEQUATELY EVALUATE A REACTOR PROTECTION SYSTEM SET POINT MODIFICATION**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for an inadequate design change review for a steam generator low-low water level setpoint modification. Specifically, Dominion did not fully consider the impact of the modification on the ability of the steam generator to accommodate operational transients without exceeding a parameter threshold which would require automatic or manual protective action. This led to a reactor trip on December 1, 2005, while conducting a rapid downpower in response to a reactor coolant system leak from the packing of a loop maintenance stop valve that was collected in a drain tank inside primary containment. At 38 percent power, main turbine vibrations increased above allowable values and the turbine was manually tripped. Following the turbine trip, the reactor unexpectedly automatically tripped on the "C" steam generator low-low level trip setpoint. Dominion entered this condition into their corrective action program as CR-06-04788. Corrective actions for this issue included plans to conduct an engineering analysis to determine the new steam generator low-low level trip setpoints and revision of the design change notice and the 10 CFR 50.59 screening. This finding is more than minor because it is associated with the Initiating Events Cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, an inadequate design change review led to an unanticipated reactor trip. This issue is of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding is related to the cross-cutting aspect of human performance in that Dominion's review and decision making process was not effective at identifying possible unintended consequences when making assumptions for a risk significant design change.

Inspection Report# : [2006003](#) (*pdf*)

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# Mitigating Systems

**Significance:**  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

## **DID NOT EVALUATE AND CORRECT A SIGNIFICANT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH GRAVITY FEED BORATION LINES**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to fully evaluate and correct a significant condition adverse to quality which led to a repeat occurrence of air introduction in the gravity feed boration line. Specifically, following identification and documentation of air in the "A" gravity feed boration line on September 9, 2004, Dominion did not evaluate and correct the cause which then led to a repeat occurrence of air introduction in the "B" gravity feed boration line on April 13, 2006. The inspectors determined that the cause of both events was due to an inadequate chemical and volume control system (CVCS) fill and vent procedure. Dominion entered this condition into their corrective action program as CR-06-03730. Corrective actions for this issue included venting the air from the gravity feed boration line and plans to revise the CVCS fill and vent procedure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, excessive air in the gravity feed lines has the potential to damage the operating charging pump if an emergency boration event were to occur. This finding was determined to be of very low safety significance (Green) since full mitigation credit was given for the availability of redundant emergency boration paths. This finding is related to the cross-cutting aspect of problem identification and resolution in that Dominion did not fully evaluate and correct an identified degraded condition discovered in September 2004, which then recurred in April 2006.

Inspection Report# : [2006003](#) (*pdf*)

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# Barrier Integrity

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## Emergency Preparedness

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

## **FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION REQUIRED ACTIONS FOR INOPERABLE CONTAINMENT HIGH RANGE RADIATION MONITORS**

A Green NCV was identified regarding the site engineering organization's failure to evaluate, in a timely manner, the effects that thermally induced currents (TIC) have on the operability of the Unit 3 containment high range radiation monitors (HRRM) (RMS\*RE-04A and RMS\*RE-05A) during a design basis accident, as required by Technical Specification 3.3.3.6. On September 6, 2006, site engineering issued condition report (CR-06-08181), documenting that engineering calculations demonstrated that the Unit 3 containment HRRMs (RMS\*RE-04A and RMS\*RE-05A) would provide false indications due to TICs that would occur following a loss of coolant accident (LOCA). Upon review of the matter, Dominion declared both channels of the Unit-3 containment HRRM monitoring system inoperable on September 6, 2006, in accordance with Technical Specification Action Statement 3.3.3.6. Immediate corrective actions included submitting a Special Report as required by TS 3.3.3.6 and revision of operating procedures to identify alternative methods for monitoring Unit 3 containment radiological conditions, when required. Additionally, Dominion generated CR-06-08340 to identify its untimely response to this condition and affect corrective measures to prevent recurrence. This finding is more than minor because it is associated with the facilities and equipment attribute of the Emergency Preparedness Cornerstone and adversely affects the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using Sheet 1, Failure to Comply, of Inspection Manual Chapter 0609, Appendix B, Emergency Preparedness Significance Determination Process (SDP). The finding is of low safety significance because the performance deficiency was a failure to comply with a non-risk significant planning standard and no planning standard function failure occurred since other

parameters could be used to validate the indications from the Unit 3 containment HRRMs. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, Dominion failed to adequately evaluate and correct the condition for impact on operability.

Inspection Report# : [2006004](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ACCOUNT FOR ALL SHIPPED RADIOACTIVE MATERIAL ON THE UNIFORM MANIFEST**

A self-revealing NCV of 10 CFR 20, Appendix G, “Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest,” was identified for failure to list on a shipping manifest all radioactive materials that were shipped to a waste processor. On February 24, 2006, Dominion shipped a spent filter liner (Shipment No. 06-019) to a waste processor. On March 2, 2006, the waste processor notified Dominion that upon opening the liner, two bags, containing contaminated rags and mop heads, were not accounted for on the manifest. This issue was entered into Dominion’s corrective action program (CR 06-02234). Corrective action for this issue included informing the waste processor by phone of the correct activity, weight, and volume of this material and providing an amended uniform manifest. The finding is more than minor because it is associated with Public Radiation Safety Cornerstone and involves a failure to comply with NRC regulations. This finding is of very low safety significance because the quantity of radioactive material did not involve under-classifying the shipment’s waste (Class C) or the Department of Transportation shipping category (LSA II). This finding is related to the cross-cutting aspect of human performance because Dominion did not adequately implement procedures for preparation of the manifest.

Inspection Report# : [2006004](#) (*pdf*)

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

Last modified : June 01, 2007

# Millstone 3

## 2Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Perform Evaluations on Boric Acid Leaks**

The inspectors identified that Dominion did not follow Boric Acid Corrosion Control program procedures. Specifically, plant personnel failed to adequately perform boric acid leak evaluations as required by Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program." This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Dominion's corrective actions for this issue included a general area cleaning program to remove boric acid residue from target components and ensuring the Boric Acid Corrosion Control program includes clear documentation of evaluations for both the leaking component and any associated target component(s).

This finding was more than minor because it was associated with the human 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. The inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigating systems resulting in a total loss of their safety function. Additionally, this finding is similar to IMC 0612, Appendix E example 4a, in that the licensee routinely failed to perform engineering evaluations on similar issues; i.e., boric acid leaks. The performance deficiency had a cross-cutting aspect in the area of human performance, work practices component, because Dominion did not ensure personnel followed procedures.

Inspection Report# : [2007003](#) (*pdf*)

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT SURVEILLANCE PROCEDURES RESULTED IN A TEMPORARY LOSS OF CONTAINMENT COOLING AND HIGH PRESSURIZER LEVEL TSAS ENTRY**

A Green self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.8.1, "Procedures," was identified because Dominion did not adequately implement procedures while performing a surveillance to test containment isolation slave relays. This resulted in three containment isolation valves repositioning which caused pressurizer level to increase high out of the normal operating band and an isolation of containment cooling. Corrective actions for this issue included performing a level one root cause, revising the surveillance procedure to improve the Operations and Instrumentation & Control coordination of the missed critical step, coaching to the individuals involved in the missed step, and reinforcing good human error prevention techniques.

This finding is more than minor because it was associated with the Initiating Event's cornerstone and affected the cornerstone's 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 inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 Significance Determination Process in accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations". Specifically, this finding did not contribute to both the likelihood of a reactor trip and that mitigating systems would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Work Practice component, because Dominion's Work Practice techniques were not effective in ensuring personnel followed a slave relay testing surveillance procedure that resulted in a loss of containment cooling and caused



pressurizer level to increase above the TS allowed value.

Inspection Report# : [2007002](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Implement Safety-Related Surveillance Procedure Resulted in 'A' Safety Injection Accumulator Inoperability**

A self-revealing finding was identified when Dominion incorrectly performed a safety-related surveillance procedure. Specifically, Operations mistakenly performed a biennial surveillance test that verified remote vent valve position by opening a nitrogen vent path and verifying a decrease in accumulator pressure for the Unit 3 'A' safety injection (SI) accumulator instead of the planned quarterly surveillance. As a result, the 'A' SI accumulator was inadvertently depressurized to below the Technical Specifications value. This finding was determined to be an NCV of TS 6.8.1, "Procedures." Dominion's corrective actions for this issue included restoring accumulator pressure, performing an apparent cause evaluation to determine the underlying causes associated with the error, training the personnel involved, and scheduling human performance training for Operations during training cycle 07-03.

The finding was more than minor because it was associated with the human 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 inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue is not a design or qualification deficiency, does not represent the loss of a system safety function or safety function of a single train, and does not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The performance deficiency had a cross cutting aspect in the area of human performance, work practice component, because Dominion's human error prevention techniques such as holding a pre-job brief and peer checking were not used to ensure the surveillance was properly performed.

Inspection Report# : [2007003](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION REQUIRED ACTIONS FOR INOPERABLE CONTAINMENT HIGH RANGE RADIATION MONITORS**

A Green NCV was identified regarding the site engineering organization's failure to evaluate, in a timely manner, the effects that thermally induced currents (TIC) have on the operability of the Unit 3 containment high range radiation monitors (HRRM) (RMS\*RE-04A and RMS\*RE-05A) during a design basis accident, as required by Technical Specification 3.3.3.6. On September 6, 2006, site engineering issued condition report (CR-06-08181), documenting that engineering calculations demonstrated that the Unit 3 containment HRRMs (RMS\*RE-04A and RMS\*RE-05A) would provide false indications due to TICs that would occur following a loss of coolant accident (LOCA). Upon review of the matter, Dominion declared both channels of the Unit-3 containment HRRM monitoring system inoperable on September 6, 2006, in accordance with Technical Specification Action Statement 3.3.3.6. Immediate

corrective actions included submitting a Special Report as required by TS 3.3.3.6 and revision of operating procedures to identify alternative methods for monitoring Unit 3 containment radiological conditions, when required. Additionally, Dominion generated CR-06-08340 to identify its untimely response to this condition and affect corrective measures to prevent recurrence.

This finding is more than minor because it is associated with the facilities and equipment attribute of the Emergency Preparedness Cornerstone and adversely affects the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using Sheet 1, Failure to Comply, of Manual Chapter 0609, Appendix B, Emergency Preparedness Significance Determination Process (SDP). The finding is of low safety significance because the performance deficiency was a failure to comply with a non-risk significant planning standard and no planning standard function failure occurred since other parameters could be used to validate the indications from the Unit 3 containment HRRMs. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, Dominion failed to adequately evaluate and correct the condition for impact on operability. Inspection Report# : [2006004](#) (*pdf*)

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## Occupational Radiation Safety

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### Public Radiation Safety

**Significance:**  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ACCOUNT FOR ALL SHIPPED RADIOACTIVE MATERIAL ON THE UNIFORM MANIFEST**

A self-revealing NCV of 10 CFR 20, Appendix G, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest," was identified for failure to list on a shipping manifest all radioactive materials that were shipped to a waste processor. On February 24, 2006, Dominion shipped a spent filter liner (Shipment No. 06-019) to a waste processor. On March 2, 2006, the waste processor notified Dominion that upon opening the liner, two bags, containing contaminated rags and mop heads, were not accounted for on the manifest. This issue was entered into Dominion's corrective action program (CR 06-02234). Corrective action for this issue included informing the waste processor by phone of the correct activity, weight, and volume of this material and providing an amended uniform manifest.

The finding is more than minor because it is associated with Public Radiation Safety Cornerstone and involves a failure to comply with NRC regulations. This finding is of very low safety significance because the quantity of radioactive material did not involve under-classifying the shipment's waste (Class C) or the Department of Transportation shipping category (LSA II). This finding is related to the cross-cutting aspect of human performance because Dominion did not adequately implement procedures for preparation of the manifest.

Inspection Report# : [2006004](#) (*pdf*)

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### 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.

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# Miscellaneous

Last modified : August 24, 2007

# Millstone 3

## 3Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Perform Evaluations on Boric Acid Leaks**

The inspectors identified that Dominion did not follow Boric Acid Corrosion Control program procedures. Specifically, plant personnel failed to adequately perform boric acid leak evaluations as required by Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program." This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Dominion's corrective actions for this issue included a general area cleaning program to remove boric acid residue from target components and ensuring the Boric Acid Corrosion Control program includes clear documentation of evaluations for both the leaking component and any associated target component(s).

This finding was more than minor because it was associated with the human 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. The inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigating systems resulting in a total loss of their safety function. Additionally, this finding is similar to IMC 0612, Appendix E example 4a, in that the licensee routinely failed to perform engineering evaluations on similar issues; i.e., boric acid leaks. The performance deficiency had a cross-cutting aspect in the area of human performance, work practices component, because Dominion did not ensure personnel followed procedures. [H.4(b)]

Inspection Report# : [2007003](#) (*pdf*)

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT SURVEILLANCE PROCEDURES RESULTED IN A TEMPORARY LOSS OF CONTAINMENT COOLING AND HIGH PRESSURIZER LEVEL TSAS ENTRY**

A Green self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.8.1, "Procedures," was identified because Dominion did not adequately implement procedures while performing a surveillance to test containment isolation slave relays. This resulted in three containment isolation valves repositioning which caused pressurizer level to increase high out of the normal operating band and an isolation of containment cooling. Corrective actions for this issue included performing a level one root cause, revising the surveillance procedure to improve the Operations and Instrumentation & Control coordination of the missed critical step, coaching to the individuals involved in the missed step, and reinforcing good human error prevention techniques.

This finding is more than minor because it was associated with the Initiating Event's cornerstone and affected the cornerstone's 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 inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 Significance Determination Process in accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations". Specifically, this finding did not contribute to both the likelihood of a reactor trip and that mitigating systems would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Work Practice component, because Dominion's Work Practice techniques were not effective in ensuring personnel followed a slave relay testing surveillance procedure that resulted in a loss of containment cooling and caused

## Mitigating Systems

**Significance:**  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Implement Safety-Related Surveillance Procedure Resulted in 'A' Safety Injection Accumulator Inoperability**

A self-revealing finding was identified when Dominion incorrectly performed a safety-related surveillance procedure. Specifically, Operations mistakenly performed a biennial surveillance test that verified remote vent valve position by opening a nitrogen vent path and verifying a decrease in accumulator pressure for the Unit 3 'A' safety injection (SI) accumulator instead of the planned quarterly surveillance. As a result, the 'A' SI accumulator was inadvertently depressurized to below the Technical Specifications value. This finding was determined to be an NCV of TS 6.8.1, "Procedures." Dominion's corrective actions for this issue included restoring accumulator pressure, performing an apparent cause evaluation to determine the underlying causes associated with the error, training the personnel involved, and scheduling human performance training for Operations during training cycle 07-03.

The finding was more than minor because it was associated with the human 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 inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue is not a design or qualification deficiency, does not represent the loss of a system safety function or safety function of a single train, and does not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The performance deficiency had a cross cutting aspect in the area of human performance, work practice component, because Dominion's human error prevention techniques such as holding a pre-job brief and peer checking were not used to ensure the surveillance was properly performed. [H.4(a)]

Inspection Report# : [2007003](#) (pdf)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : December 07, 2007



# Millstone 3

## 4Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Auxiliary Building Fire Safe Shutdown Procedure Lacked RCP Seal Thermal Shock Precautions**

The team identified a Green NCV of the Millstone Unit 3 Technical Specification 6.8.1.g, in that the procedure for shutting down the plant in response to an auxiliary building fire scenario did not provide precautions to operators to prevent thermal shock to two reactor coolant pump (RCP) seal packages. This procedure deficiency was contrary to Westinghouse Technical Bulletin, TB-04-22, "Reactor Coolant Pump Seal Performance - Appendix R Compliance and Loss of All Seal Cooling," Rev. 1, which specifically recommended to all applicable licensees that if any plant specific procedure or guidance was not consistent with the Westinghouse recommendations, then the licensee should modify either the procedure or guidance to be consistent, or document the technical basis for any deviation. Dominion entered this issue into the corrective action program as CR-07-09685 and initiated corrective actions to expeditiously revise the procedure.

This finding was more than minor because it affected the procedure quality attribute of the initiating events 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. Specifically, not including precautions in EOP 3509.2, "Auxiliary Building Fire," Rev. 003-01, prior to RCP seal restoration does not limit the likelihood of an RCP seal loss of a coolant accident. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process (SDP)." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase one of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the procedural deficiency was compensated by operator experience and familiarity. The team noted that several other operating procedures provided adequate precautions to prevent thermal shock to RCP seals. Operators were further instructed on RCP thermal shock considerations in the requalification training program. The team determined that this finding has a cross-cutting aspect in the area of human performance because Dominion did not provide procedure precautions to prevent thermal shock to RCP seals for an auxiliary building fire scenario. [H.2(c)]

Inspection Report# : [2007007](#) (*pdf*)

**Significance:**  Sep 30, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Failure to Perform Fill and Vent of TPCCW Heat Exchanger Resulted in Loss of Two TPCCW Pumps**

A self-revealing finding was identified for Dominion's failure to implement procedure OP 3330B, "Turbine Plant Component Cooling Water" during restoration of the "B" turbine plant component cooling water (TPCCW) heat exchanger on August 28, 2007. Specifically, following maintenance that left the heat exchanger shell in a partially drained condition, Dominion did not fill and vent the heat exchanger in accordance with OP 3330B. This resulted in two of the three TPCCW pumps receiving an automatic trip signal on low suction pressure. Loss of the remaining TPCCW pump would have required the operators to manually trip the reactor within three minutes per plant procedures. Dominion entered this issue into their corrective action program as CR-07-09057. Corrective actions included revising OP 3330B to require the fill and vent section be used following maintenance to ensure the TPCCW side of the heat exchanger is completely full of water, and revising the work planning procedure to request operations work planning provide restoration packages for all applicable work orders.

This finding is more than minor because it was associated with the human 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, Dominion's failure to implement the fill and vent procedure, when required by heat exchanger conditions, could potentially have

led to the loss of all TPCCW pumps and required operators to manually trip the reactor. This finding was determined to be of very low safety significance (Green) by performing a Phase 1 evaluation in accordance with NRC IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a cross-cutting aspect in the area of Human Performance, work practices component, because Dominion did not implement proper procedures for the restoration of the "B" TPCCW heat exchanger. [H.4 (b)]

Inspection Report# : [2007004](#) (*pdf*)

**Significance:**  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Perform Evaluations on Boric Acid Leaks**

The inspectors identified that Dominion did not follow Boric Acid Corrosion Control program procedures. Specifically, plant personnel failed to adequately perform boric acid leak evaluations as required by Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program." This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Dominion's corrective actions for this issue included a general area cleaning program to remove boric acid residue from target components and ensuring the Boric Acid Corrosion Control program includes clear documentation of evaluations for both the leaking component and any associated target component(s).

This finding was more than minor because it was associated with the human 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. The inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigating systems resulting in a total loss of their safety function. Additionally, this finding is similar to IMC 0612, Appendix E example 4a, in that the licensee routinely failed to perform engineering evaluations on similar issues; i.e., boric acid leaks. The performance deficiency had a cross-cutting aspect in the area of human performance, work practices component, because Dominion did not ensure personnel followed procedures. [H.4(b)]

Inspection Report# : [2007003](#) (*pdf*)

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT SURVEILLANCE PROCEDURES RESULTED IN A TEMPORARY LOSS OF CONTAINMENT COOLING AND HIGH PRESSURIZER LEVEL TSAS ENTRY**

A Green self-revealing NCV of Technical Specification (TS) 6.8.1, AProcedures,@ was identified because Dominion did not adequately implement procedures while performing a surveillance to test containment isolation slave relays. This resulted in three containment isolation valves repositioning, which caused pressurizer level to increase above of the normal operating band and an isolation of containment cooling. Corrective actions for this issue included performing a level one root cause, revising the surveillance procedure to remove a potential human performance error trap, coaching of the individuals involved, and reinforcing good human error prevention techniques to both Maintenance and Operations departments.

This finding is more than minor because it is associated with the Initiating Events cornerstone and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the performance deficiency resulted in pressurizer level increasing above the TS allowed band and a temporary loss of containment cooling. The inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 SDP, in accordance with IMC 0609, Appendix A, ASignificance Determination of Reactor Inspection Findings for At-Power Situations.@ Specifically, this finding did not contribute to both the likelihood of a reactor trip and that mitigating systems would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Resources component,

because Dominion did not ensure that the slave relay testing procedure was adequate and complete since the procedure contained details in a permission step that could be incorrectly perceived as an action step. [H.2(c)] (Section 1R22)

Inspection Report# : [2007002](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Auxiliary Shutdown Panel Reactor Head Vent Valves Not Isolated from Effects of a Control Room Fire**

The team identified a Green NCV of Millstone Unit 3 operating license condition 2.H, “Fire Protection,” in that Dominion did not ensure for a control room fire that the control circuits for the reactor head vent valves would not be damaged by fire when control was transferred to the auxiliary shutdown panel (ASP). As a result, the valves were subject to spurious failure even after ASP control was established. Immediate corrective actions included: fire protection compensatory measures were initiated to minimize the potential for a fire in the areas of concern; an extent of condition review was performed for other potential circuit issues for credited equipment operated from the ASP; and the affected control circuit seal-in relays were relocated outside of the control room. Dominion entered this issue into the corrective action program as CR-07-09905.

This team determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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, a letdown path necessary to achieve cold shutdown boron conditions would be subject to spurious isolation during a control room fire. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, “Fire Protection Significance Determination Process.” This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. The reactor vessel head vent valves are also credited for hot standby conditions to maintain inventory control, but uncomplicated operator actions to reduce charging flow will maintain adequate inventory control during hot standby conditions.

Inspection Report# : [2007007](#) (*pdf*)

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Emergency Light Unit High Failure Rate**

The team identified a Green NCV of the Millstone Unit 3 operating license condition 2.H, “Fire Protection,” in that Dominion failed to correct an adverse trend in emergency lighting unit (ELU) performance. Dominion entered this issue into the corrective action program as CR-07-09034 and CR-07-09319 and initiated corrective actions to: revise the ELU maintenance rule action plan; reevaluate and implement an accelerated battery replacement interval; consider additional actions for ELU batteries located in high temperature areas; and benchmark ELU preventive maintenance with other utilities.

This performance deficiency is more than minor because it affected the external factors attribute (fire) of the mitigating systems 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 reliability and availability of the ELUs were affected. ELUs illuminate access and egress paths for safe shutdown operations as well as areas where safe shutdown manual actions are performed. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, “Fire Protection Significance Determination Process.” This finding affected post-fire safe shutdown. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the issue did not have a significant impact on safe shutdown operations: operators as a good operating practice carry flashlights and the ELU failures

were generally random in location, i.e., no plant areas had widespread ELU outages at any one time. The team determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Dominion did not correct a long standing ELU high failure rate. [P.1(d)]

Inspection Report# : [2007007](#) (*pdf*)

**Significance:**  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Implement Safety-Related Surveillance Procedure Resulted in 'A' Safety Injection Accumulator Inoperability**

A self-revealing finding was identified when Dominion incorrectly performed a safety-related surveillance procedure. Specifically, Operations mistakenly performed a biennial surveillance test that verified remote vent valve position by opening a nitrogen vent path and verifying a decrease in accumulator pressure for the Unit 3 'A' safety injection (SI) accumulator instead of the planned quarterly surveillance. As a result, the 'A' SI accumulator was inadvertently depressurized to below the Technical Specifications value. This finding was determined to be an NCV of TS 6.8.1, "Procedures." Dominion's corrective actions for this issue included restoring accumulator pressure, performing an apparent cause evaluation to determine the underlying causes associated with the error, training the personnel involved, and scheduling human performance training for Operations during training cycle 07-03.

The finding was more than minor because it was associated with the human 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 inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue is not a design or qualification deficiency, does not represent the loss of a system safety function or safety function of a single train, and does not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The performance deficiency had a cross cutting aspect in the area of human performance, work practice component, because Dominion's human error prevention techniques such as holding a pre-job brief and peer checking were not used to ensure the surveillance was properly performed. [H.4(a)]

Inspection Report# : [2007003](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **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.

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# Miscellaneous

Last modified : February 04, 2008

# Millstone 3

## 1Q/2008 Plant Inspection Findings

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### Initiating Events

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Auxiliary Building Fire Safe Shutdown Procedure Lacked RCP Seal Thermal Shock Precautions**

The team identified a Green NCV of the Millstone Unit 3 Technical Specification 6.8.1.g, in that the procedure for shutting down the plant in response to an auxiliary building fire scenario did not provide precautions to operators to prevent thermal shock to two reactor coolant pump (RCP) seal packages. This procedure deficiency was contrary to Westinghouse Technical Bulletin, TB-04-22, "Reactor Coolant Pump Seal Performance - Appendix R Compliance and Loss of All Seal Cooling," Rev. 1, which specifically recommended to all applicable licensees that if any plant specific procedure or guidance was not consistent with the Westinghouse recommendations, then the licensee should modify either the procedure or guidance to be consistent, or document the technical basis for any deviation. Dominion entered this issue into the corrective action program as CR-07-09685 and initiated corrective actions to expeditiously revise the procedure.

This finding was more than minor because it affected the procedure quality attribute of the initiating events 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. Specifically, not including precautions in EOP 3509.2, "Auxiliary Building Fire," Rev. 003-01, prior to RCP seal restoration does not limit the likelihood of an RCP seal loss of a coolant accident. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process (SDP)." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase one of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the procedural deficiency was compensated by operator experience and familiarity. The team noted that several other operating procedures provided adequate precautions to prevent thermal shock to RCP seals. Operators were further instructed on RCP thermal shock considerations in the requalification training program. The team determined that this finding has a cross-cutting aspect in the area of human performance because Dominion did not provide procedure precautions to prevent thermal shock to RCP seals for an auxiliary building fire scenario. [H.2(c)]

Inspection Report# : [2007007 \(pdf\)](#)

**Significance:**  Sep 30, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Failure to Perform Fill and Vent of TPCCW Heat Exchanger Resulted in Loss of Two TPCCW Pumps**

A self-revealing finding was identified for Dominion's failure to implement procedure OP 3330B, "Turbine Plant Component Cooling Water" during restoration of the "B" turbine plant component cooling water (TPCCW) heat exchanger on August 28, 2007. Specifically, following maintenance that left the heat exchanger shell in a partially drained condition, Dominion did not fill and vent the heat exchanger in accordance with OP 3330B. This resulted in two of the three TPCCW pumps receiving an automatic trip signal on low suction pressure. Loss of the remaining TPCCW pump would have required the operators to manually trip the reactor within three minutes per plant procedures. Dominion entered this issue into their corrective action program as CR-07-09057. Corrective actions included revising OP 3330B to require the fill and vent section be used following maintenance to ensure the TPCCW side of the heat exchanger is completely full of water, and revising the work planning procedure to request operations work planning provide restoration packages for all applicable work orders.

This finding is more than minor because it was associated with the human 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, Dominion's failure to implement the fill and vent procedure, when required by heat exchanger conditions, could potentially have led to the loss of all TPCCW pumps and required operators to manually trip the reactor. This finding was determined



to be of very low safety significance (Green) by performing a Phase 1 evaluation in accordance with NRC IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a cross-cutting aspect in the area of Human Performance, work practices component, because Dominion did not implement proper procedures for the restoration of the "B" TPCCW heat exchanger. [H.4(b)]

Inspection Report# : [2007004](#) (pdf)

**Significance:** G Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Perform Evaluations on Boric Acid Leaks**

The inspectors identified that Dominion did not follow Boric Acid Corrosion Control program procedures. Specifically, plant personnel failed to adequately perform boric acid leak evaluations as required by Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program." This finding was determined to be an NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Dominion's corrective actions for this issue included a general area cleaning program to remove boric acid residue from target components and ensuring the Boric Acid Corrosion Control program includes clear documentation of evaluations for both the leaking component and any associated target component(s).

This finding was more than minor because it was associated with the human 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. The inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigating systems resulting in a total loss of their safety function. Additionally, this finding is similar to IMC 0612, Appendix E example 4a, in that the licensee routinely failed to perform engineering evaluations on similar issues; i.e., boric acid leaks. The performance deficiency had a cross-cutting aspect in the area of human performance, work practices component, because Dominion did not ensure personnel followed procedures. [H.4(b)]

Inspection Report# : [2007003](#) (pdf)

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## **Mitigating Systems**

**Significance:** G Nov 14, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Complete Specified Requirements (10CFR55.53(f)) Prior to Allowing the Operator to Resume Control Room Watch Standing Activities**

Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 55.53(e) for the licensee's failure to complete the requirements of 10 CFR 55.53(f) prior to an inactive licensed operator resuming control room watchstanding duties. Specifically, because a Reactor Operator interrupted his shift for administrative functions (for over one hour) during one of five required proficiency watches in the first quarter of 2007, he did not fulfill the requisite number of 12 hour watches, and his license became inactive at the end of that quarter. When he subsequently stood Reactor Operator watches during the second and third quarters of 2007, prior to completing the requirements of 10 CFR 55.53(f), a violation of 10 CFR 55.53(e) requirements occurred. The licensee entered this deficiency into their corrective action program as CR-07-10776. The licensee completed a 100 percent review of all staff licensees for proficiency watches between July 2006 and September 2007 and found no further violations.

This finding was more than minor because the issue was associated with the human performance 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, licensed operators that are not current in watchstanding proficiency may commit operator errors that could cause mitigating systems to fail to respond properly. The finding is of very low safety significance because, per the SDP Appendix I flowchart, more than 20 percent of records reviewed (1 out of 2 staff licensed Reactor Operators) had deficiencies.

Inspection Report# : [2007005 \(pdf\)](#)

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Auxiliary Shutdown Panel Reactor Head Vent Valves Not Isolated from Effects of a Control Room Fire**

The team identified a Green NCV of Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion did not ensure for a control room fire that the control circuits for the reactor head vent valves would not be damaged by fire when control was transferred to the auxiliary shutdown panel (ASP). As a result, the valves were subject to spurious failure even after ASP control was established. Immediate corrective actions included: fire protection compensatory measures were initiated to minimize the potential for a fire in the areas of concern; an extent of condition review was performed for other potential circuit issues for credited equipment operated from the ASP; and the affected control circuit seal-in relays were relocated outside of the control room. Dominion entered this issue into the corrective action program as CR-07-09905.

This team determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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, a letdown path necessary to achieve cold shutdown boron conditions would be subject to spurious isolation during a control room fire. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. The reactor vessel head vent valves are also credited for hot standby conditions to maintain inventory control, but uncomplicated operator actions to reduce charging flow will maintain adequate inventory control during hot standby conditions.

Inspection Report# : [2007007 \(pdf\)](#)

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Emergency Light Unit High Failure Rate**

The team identified a Green NCV of the Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion failed to correct an adverse trend in emergency lighting unit (ELU) performance. Dominion entered this issue into the corrective action program as CR-07-09034 and CR-07-09319 and initiated corrective actions to: revise the ELU maintenance rule action plan; reevaluate and implement an accelerated battery replacement interval; consider additional actions for ELU batteries located in high temperature areas; and benchmark ELU preventive maintenance with other utilities.

This performance deficiency is more than minor because it affected the external factors attribute (fire) of the mitigating systems 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 reliability and availability of the ELUs were affected. ELUs illuminate access and egress paths for safe shutdown operations as well as areas where safe shutdown manual actions are performed. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected post-fire safe shutdown. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the issue did not have a significant impact on safe shutdown operations: operators as a good operating practice carry flashlights and the ELU failures were generally random in location, i.e., no plant areas had widespread ELU outages at any one time. The team determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Dominion did not correct a long standing ELU high failure rate. [P.1(d)]

Inspection Report# : [2007007 \(pdf\)](#)

**Significance:** G Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Implement Safety-Related Surveillance Procedure Resulted in 'A' Safety Injection Accumulator Inoperability**

A self-revealing finding was identified when Dominion incorrectly performed a safety-related surveillance procedure. Specifically, Operations mistakenly performed a biennial surveillance test that verified remote vent valve position by opening a nitrogen vent path and verifying a decrease in accumulator pressure for the Unit 3 'A' safety injection (SI) accumulator instead of the planned quarterly surveillance. As a result, the 'A' SI accumulator was inadvertently depressurized to below the Technical Specifications value. This finding was determined to be an NCV of TS 6.8.1, "Procedures." Dominion's corrective actions for this issue included restoring accumulator pressure, performing an apparent cause evaluation to determine the underlying causes associated with the error, training the personnel involved, and scheduling human performance training for Operations during training cycle 07-03.

The finding was more than minor because it was associated with the human 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 inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because the issue is not a design or qualification deficiency, does not represent the loss of a system safety function or safety function of a single train, and does not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The performance deficiency had a cross cutting aspect in the area of human performance, work practice component, because Dominion's human error prevention techniques such as holding a pre-job brief and peer checking were not used to ensure the surveillance was properly performed. [H.4(a)]  
Inspection Report# : [2007003](#) (*pdf*)

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## **Barrier Integrity**

**Significance:** G Nov 14, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Maintain Core Thermal Power at or below 3411 MWTH**

Green. A Green self-revealing non-cited violation (NCV) of Dominion Nuclear Connecticut (DNC), Inc.'s Unit 3 License, Number NPF-49, Section 2.C.(1) was identified for Dominion's failure to maintain reactor core thermal power less than or equal to 3411 megawatts thermal (MWTH). Specifically, during performance of turbine overspeed protection system testing, the Unit 3 reactor's four minute power average exceeded 3479 MWTH. The power transient was due, in part, to Dominion's continuance of the surveillance following an unexpected plant response after turbine control was transferred to "load set." Corrective actions for this issue include performing the surveillance at a lower power and providing just-in-time training to operating crews prior to performing the surveillance.

The finding was more than minor because it was associated with the human performance attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers (i.e., fuel cladding) protect the public from radionuclide releases caused by accidents or events. The finding was determined to be of very low safety significance (Green) because it only involved the potential to affect the fuel cladding barrier. This finding has a cross-cutting aspect in the area of Human Performance, Decision-making, because Dominion did not use conservative assumptions in decision making in proceeding with turbine control valve testing after an unexpected plant response had a significant effect on reactivity [H.1(b)].

Inspection Report# : [2007005](#) (*pdf*)

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## **Emergency Preparedness**

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# Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : June 05, 2008

# Millstone 3

## 2Q/2008 Plant Inspection Findings

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### Initiating Events

**Significance:** G Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Auxiliary Building Fire Safe Shutdown Procedure Lacked RCP Seal Thermal Shock Precautions**

The team identified a Green NCV of the Millstone Unit 3 Technical Specification 6.8.1.g, in that the procedure for shutting down the plant in response to an auxiliary building fire scenario did not provide precautions to operators to prevent thermal shock to two reactor coolant pump (RCP) seal packages. This procedure deficiency was contrary to Westinghouse Technical Bulletin, TB-04-22, "Reactor Coolant Pump Seal Performance - Appendix R Compliance and Loss of All Seal Cooling," Rev. 1, which specifically recommended to all applicable licensees that if any plant specific procedure or guidance was not consistent with the Westinghouse recommendations, then the licensee should modify either the procedure or guidance to be consistent, or document the technical basis for any deviation. Dominion entered this issue into the corrective action program as CR-07-09685 and initiated corrective actions to expeditiously revise the procedure.

This finding was more than minor because it affected the procedure quality attribute of the initiating events 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. Specifically, not including precautions in EOP 3509.2, "Auxiliary Building Fire," Rev. 003-01, prior to RCP seal restoration does not limit the likelihood of an RCP seal loss of a coolant accident. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process (SDP)." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase one of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the procedural deficiency was compensated by operator experience and familiarity. The team noted that several other operating procedures provided adequate precautions to prevent thermal shock to RCP seals. Operators were further instructed on RCP thermal shock considerations in the requalification training program. The team determined that this finding has a cross-cutting aspect in the area of human performance because Dominion did not provide procedure precautions to prevent thermal shock to RCP seals for an auxiliary building fire scenario. [H.2(c)]

Inspection Report# : [2007007](#) (*pdf*)

**Significance:** G Sep 30, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Failure to Perform Fill and Vent of TPCCW Heat Exchanger Resulted in Loss of Two TPCCW Pumps**

A self-revealing finding was identified for Dominion's failure to implement procedure OP 3330B, "Turbine Plant Component Cooling Water" during restoration of the "B" turbine plant component cooling water (TPCCW) heat exchanger on August 28, 2007. Specifically, following maintenance that left the heat exchanger shell in a partially drained condition, Dominion did not fill and vent the heat exchanger in accordance with OP 3330B. This resulted in two of the three TPCCW pumps receiving an automatic trip signal on low suction pressure. Loss of the remaining TPCCW pump would have required the operators to manually trip the reactor within three minutes per plant procedures. Dominion entered this issue into their corrective action program as CR-07-09057. Corrective actions included revising OP 3330B to require the fill and vent section be used following maintenance to ensure the TPCCW side of the heat exchanger is completely full of water, and revising the work planning procedure to request operations work planning provide restoration packages for all applicable work orders.

This finding is more than minor because it was associated with the human 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, Dominion's failure to implement the fill and vent procedure, when required by heat exchanger conditions, could potentially have led to the loss of all TPCCW pumps and required operators to manually trip the reactor. This finding was determined



to be of very low safety significance (Green) by performing a Phase 1 evaluation in accordance with NRC IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a cross-cutting aspect in the area of Human Performance, work practices component, because Dominion did not implement proper procedures for the restoration of the "B" TPCCW heat exchanger. [H.4 (b)]

Inspection Report# : [2007004](#) (pdf)

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## Mitigating Systems

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Fire Protection Deficiency Resulting in Potential Loss of All Charging Pumps**

The inspectors identified a Green, NCV of the Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion failed to correct a fire protection program deficiency and assure that one train of charging would remain free of fire damage for fire scenarios that could produce spurious closure of a Volume Control Tank (VCT) outlet or charging pump suction motor operated valve. This issue was first identified by Dominion on September 16, 2004, but corrective actions to thoroughly evaluate the issue relative to the fire protection program were extended on several occasions. For this issue Dominion initiated corrective actions to implement fire protection program compensatory measures, maximize the availability of the C charging pump, and identify and implement a long term resolution.

The inspectors determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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 availability of the charging system for nine fire scenarios was not ensured. Phase 1, and a combination of Phase 2 and 3 of the NRC's IMC 0609, Appendix F, "Fire Protection Significance Determination Process" were used to determine that this finding was of very low safety significance (Green), with an estimated total core damage frequency (CDF) of 1 in 1,400,000 years in the range of 7E-7 per reactor operating year. The inspectors determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Dominion, since September 16, 2004, did not thoroughly evaluate the issue regarding potential fire induced spurious closure of charging pumps suction valves which could cause damage to the running charging pump and potentially impact post-fire safe shutdown operation. This issue is reflective of current licensee performance because Dominion recently extended corrective action due dates to perform a thorough safe-shutdown evaluation of the issue. [P.1(c)]. (Section 1R05)

Inspection Report# : [2008003](#) (pdf)

**Significance:**  Nov 14, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Complete Specified Requirements (10CFR55.53(f)) Prior to Allowing the Operator to Resume Control Room Watch Standing Activities**

Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 55.53(e) for the licensee's failure to complete the requirements of 10 CFR 55.53(f) prior to an inactive licensed operator resuming control room watchstanding duties. Specifically, because a Reactor Operator interrupted his shift for administrative functions (for over one hour) during one of five required proficiency watches in the first quarter of 2007, he did not fulfill the requisite number of 12 hour watches, and his license became inactive at the end of that quarter. When he subsequently stood Reactor Operator watches during the second and third quarters of 2007, prior to completing the requirements of 10 CFR 55.53(f), a violation of 10 CFR 55.53(e) requirements occurred. The licensee entered this deficiency into their corrective action program as CR-07-10776. The licensee completed a 100 percent review of all staff licensees for proficiency watches between July 2006 and September 2007 and found no further violations.



This finding was more than minor because the issue was associated with the human performance 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, licensed operators that are not current in watchstanding proficiency may commit operator errors that could cause mitigating systems to fail to respond properly. The finding is of very low safety significance because, per the SDP Appendix I flowchart, more than 20 percent of records reviewed (1 out of 2 staff licensed Reactor Operators) had deficiencies.

Inspection Report# : [2007005 \(pdf\)](#)

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Auxiliary Shutdown Panel Reactor Head Vent Valves Not Isolated from Effects of a Control Room Fire**

The team identified a Green NCV of Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion did not ensure for a control room fire that the control circuits for the reactor head vent valves would not be damaged by fire when control was transferred to the auxiliary shutdown panel (ASP). As a result, the valves were subject to spurious failure even after ASP control was established. Immediate corrective actions included: fire protection compensatory measures were initiated to minimize the potential for a fire in the areas of concern; an extent of condition review was performed for other potential circuit issues for credited equipment operated from the ASP; and the affected control circuit seal-in relays were relocated outside of the control room. Dominion entered this issue into the corrective action program as CR-07-09905.

This team determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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, a letdown path necessary to achieve cold shutdown boron conditions would be subject to spurious isolation during a control room fire. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. The reactor vessel head vent valves are also credited for hot standby conditions to maintain inventory control, but uncomplicated operator actions to reduce charging flow will maintain adequate inventory control during hot standby conditions.

Inspection Report# : [2007007 \(pdf\)](#)

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Emergency Light Unit High Failure Rate**

The team identified a Green NCV of the Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion failed to correct an adverse trend in emergency lighting unit (ELU) performance. Dominion entered this issue into the corrective action program as CR-07-09034 and CR-07-09319 and initiated corrective actions to: revise the ELU maintenance rule action plan; reevaluate and implement an accelerated battery replacement interval; consider additional actions for ELU batteries located in high temperature areas; and benchmark ELU preventive maintenance with other utilities.

This performance deficiency is more than minor because it affected the external factors attribute (fire) of the mitigating systems 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 reliability and availability of the ELUs were affected. ELUs illuminate access and egress paths for safe shutdown operations as well as areas where safe shutdown manual actions are performed. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected post-fire safe shutdown. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the issue did not have a significant impact on safe shutdown operations: operators as a good operating practice carry flashlights and the ELU failures were generally random in location, i.e., no plant areas had widespread ELU outages at any one time. The team determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because

## Barrier Integrity

**Significance:** G Nov 14, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Maintain Core Thermal Power at or below 3411 MWTH**

Green. A Green self-revealing non-cited violation (NCV) of Dominion Nuclear Connecticut (DNC), Inc.'s Unit 3 License, Number NPF-49, Section 2.C.(1) was identified for Dominion's failure to maintain reactor core thermal power less than or equal to 3411 megawatts thermal (MWTH). Specifically, during performance of turbine overspeed protection system testing, the Unit 3 reactor's four minute power average exceeded 3479 MWTH. The power transient was due, in part, to Dominion's continuance of the surveillance following an unexpected plant response after turbine control was transferred to "load set." Corrective actions for this issue include performing the surveillance at a lower power and providing just-in-time training to operating crews prior to performing the surveillance.

The finding was more than minor because it was associated with the human performance attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers (i.e., fuel cladding) protect the public from radionuclide releases caused by accidents or events. The finding was determined to be of very low safety significance (Green) because it only involved the potential to affect the fuel cladding barrier. This finding has a cross-cutting aspect in the area of Human Performance, Decision-making, because Dominion did not use conservative assumptions in decision making in proceeding with turbine control valve testing after an unexpected plant response had a significant effect on reactivity [H.1(b)].

Inspection Report# : [2007005](#) (pdf)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

# Millstone 3

## 3Q/2008 Plant Inspection Findings

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### Initiating Events

**Significance:**  Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Auxiliary Building Fire Safe Shutdown Procedure Lacked RCP Seal Thermal Shock Precautions**

The team identified a Green NCV of the Millstone Unit 3 Technical Specification 6.8.1.g, in that the procedure for shutting down the plant in response to an auxiliary building fire scenario did not provide precautions to operators to prevent thermal shock to two reactor coolant pump (RCP) seal packages. This procedure deficiency was contrary to Westinghouse Technical Bulletin, TB-04-22, "Reactor Coolant Pump Seal Performance - Appendix R Compliance and Loss of All Seal Cooling," Rev. 1, which specifically recommended to all applicable licensees that if any plant specific procedure or guidance was not consistent with the Westinghouse recommendations, then the licensee should modify either the procedure or guidance to be consistent, or document the technical basis for any deviation. Dominion entered this issue into the corrective action program as CR-07-09685 and initiated corrective actions to expeditiously revise the procedure.

This finding was more than minor because it affected the procedure quality attribute of the initiating events 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. Specifically, not including precautions in EOP 3509.2, "Auxiliary Building Fire," Rev. 003-01, prior to RCP seal restoration does not limit the likelihood of an RCP seal loss of a coolant accident. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process (SDP)." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase one of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the procedural deficiency was compensated by operator experience and familiarity. The team noted that several other operating procedures provided adequate precautions to prevent thermal shock to RCP seals. Operators were further instructed on RCP thermal shock considerations in the requalification training program. The team determined that this finding has a cross-cutting aspect in the area of human performance because Dominion did not provide procedure precautions to prevent thermal shock to RCP seals for an auxiliary building fire scenario. [H.2(c)]

Inspection Report# : [2007007](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Fire Protection Deficiency Resulting in Potential Loss of All Charging Pumps**

The inspectors identified a Green, NCV of the Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion failed to correct a fire protection program deficiency and assure that one train of charging would remain free of fire damage for fire scenarios that could produce spurious closure of a Volume Control Tank (VCT) outlet or charging pump suction motor operated valve. This issue was first identified by Dominion on September 16, 2004, but corrective actions to thoroughly evaluate the issue relative to the fire protection program were extended on several occasions. For this issue Dominion initiated corrective actions to implement fire protection program compensatory measures, maximize the availability of the C charging pump, and identify and implement a long term resolution.

The inspectors determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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 availability of the charging system for nine fire scenarios was not ensured. Phase 1, and a combination of Phase 2 and 3 of the NRC's IMC 0609, Appendix F, "Fire Protection Significance Determination Process" were used to determine that this finding was of very low safety significance (Green), with an estimated total core damage frequency (CDF) of 1 in 1,400,000 years in the range of 7E-7 per reactor operating year. The inspectors determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Dominion, since September 16, 2004, did not thoroughly evaluate the issue regarding potential fire induced spurious closure of charging pumps suction valves which could cause damage to the running charging pump and potentially impact post-fire safe shutdown operation. This issue is reflective of current licensee performance because Dominion recently extended corrective action due dates to perform a thorough safe-shutdown evaluation of the issue. [P.1(c)]. (Section 1R05)

Inspection Report# : [2008003](#) (*pdf*)

**G****Significance:** Nov 14, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to Complete Specified Requirements (10CFR55.53(f)) Prior to Allowing the Operator to Resume Control Room Watch Standing Activities**

Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 55.53(e) for the licensee's failure to complete the requirements of 10 CFR 55.53(f) prior to an inactive licensed operator resuming control room watchstanding duties. Specifically, because a Reactor Operator interrupted his shift for administrative functions (for over one hour) during one of five required proficiency watches in the first quarter of 2007, he did not fulfill the requisite number of 12 hour watches, and his license became inactive at the end of that quarter. When he subsequently stood Reactor Operator watches during the second and third quarters of 2007, prior to completing the requirements of 10 CFR 55.53(f), a violation of 10 CFR 55.53(e) requirements occurred. The licensee entered this deficiency into their corrective action program as CR-07-10776. The licensee completed a 100 percent review of all staff licensees for proficiency watches between July 2006 and September 2007 and found no further violations.

This finding was more than minor because the issue was associated with the human performance 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, licensed operators that are not current in watchstanding proficiency may commit operator errors that could cause mitigating systems to fail to respond properly. The finding is of very low safety significance because, per the SDP Appendix I flowchart, more than 20 percent of records reviewed (1 out of 2 staff licensed Reactor Operators) had deficiencies.

Inspection Report# : [2007005](#) (*pdf*)**G****Significance:** Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Auxiliary Shutdown Panel Reactor Head Vent Valves Not Isolated from Effects of a Control Room Fire**

The team identified a Green NCV of Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion did not ensure for a control room fire that the control circuits for the reactor head vent valves would not be damaged by fire when control was transferred to the auxiliary shutdown panel (ASP). As a result, the valves were subject to spurious failure even after ASP control was established. Immediate corrective actions included: fire protection compensatory measures were initiated to minimize the potential for a fire in the areas of concern; an extent of condition review was performed for other potential circuit issues for credited equipment operated from the ASP; and the affected control circuit seal-in relays were relocated outside of the control room. Dominion entered this issue into the corrective action program as CR-07-09905.

This team determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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, a letdown path necessary to achieve cold shutdown boron conditions would be subject to spurious isolation during a control room fire. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected post-fire safe shutdown procedures and systems. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. The reactor vessel head vent valves are also credited for hot standby conditions to maintain inventory control, but uncomplicated operator actions to reduce charging flow will maintain adequate inventory control during hot standby conditions.

Inspection Report# : [2007007](#) (*pdf*)**G****Significance:** Oct 05, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Emergency Light Unit High Failure Rate**

The team identified a Green NCV of the Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion failed to correct an adverse trend in emergency lighting unit (ELU) performance. Dominion entered this issue into the corrective action program as CR-07-09034 and CR-07-09319 and initiated corrective actions to: revise the ELU maintenance rule action plan; reevaluate and implement an accelerated battery replacement interval; consider additional actions for ELU batteries located in high temperature areas; and benchmark ELU preventive maintenance with other utilities.

This performance deficiency is more than minor because it affected the external factors attribute (fire) of the mitigating systems 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 reliability and availability of the ELUs were affected. ELUs illuminate access and egress paths for safe shutdown operations as well as areas where safe shutdown manual actions are performed. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected post-fire safe shutdown. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because the issue did not have a significant impact on safe shutdown operations: operators as a good operating practice carry flashlights and the ELU failures were generally random in location, i.e., no plant areas had widespread ELU outages at any one time. The team determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because

## Barrier Integrity

**Significance:**  Nov 14, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Maintain Core Thermal Power at or below 3411 MWTH**

Green. A Green self-revealing non-cited violation (NCV) of Dominion Nuclear Connecticut (DNC), Inc.'s Unit 3 License, Number NPF-49, Section 2.C.(1) was identified for Dominion's failure to maintain reactor core thermal power less than or equal to 3411 megawatts thermal (MWTH). Specifically, during performance of turbine overspeed protection system testing, the Unit 3 reactor's four minute power average exceeded 3479 MWTH. The power transient was due, in part, to Dominion's continuance of the surveillance following an unexpected plant response after turbine control was transferred to "load set." Corrective actions for this issue include performing the surveillance at a lower power and providing just-in-time training to operating crews prior to performing the surveillance.

The finding was more than minor because it was associated with the human performance attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers (i.e., fuel cladding) protect the public from radionuclide releases caused by accidents or events. The finding was determined to be of very low safety significance (Green) because it only involved the potential to affect the fuel cladding barrier. This finding has a cross-cutting aspect in the area of Human Performance, Decision-making, because Dominion did not use conservative assumptions in decision making in proceeding with turbine control valve testing after an unexpected plant response had a significant effect on reactivity [H.1(b)].

Inspection Report# : [2007005](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : November 26, 2008

# Millstone 3

## 4Q/2008 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Fire Protection Deficiency Resulting in Potential Loss of All Charging Pumps**

The inspectors identified a Green, NCV of the Millstone Unit 3 operating license condition 2.H, “Fire Protection,” in that Dominion failed to correct a fire protection program deficiency and assure that one train of charging would remain free of fire damage for fire scenarios that could produce spurious closure of a Volume Control Tank (VCT) outlet or charging pump suction motor operated valve. This issue was first identified by Dominion on September 16, 2004, but corrective actions to thoroughly evaluate the issue relative to the fire protection program were extended on several occasions. For this issue Dominion initiated corrective actions to implement fire protection program compensatory measures, maximize the availability of the C charging pump, and identify and implement a long term resolution.

The inspectors determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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 availability of the charging system for nine fire scenarios was not ensured. Phase 1, and a combination of Phase 2 and 3 of the NRC’s IMC 0609, Appendix F, “Fire Protection Significance Determination Process” were used to determine that this finding was of very low safety significance (Green), with an estimated total core damage frequency (CDF) of 1 in 1,400,000 years in the range of  $7E-7$  per reactor operating year. The inspectors determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Dominion, since September 16, 2004, did not thoroughly evaluate the issue regarding potential fire induced spurious closure of charging pumps suction valves which could cause damage to the running charging pump and potentially impact post-fire safe shutdown operation. This issue is reflective of current licensee performance because Dominion recently extended corrective action due dates to perform a thorough safe-shutdown evaluation of the issue. [P.1(c)]. (Section 1R05)

Inspection Report# : [2008003](#) (*pdf*)

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### Barrier Integrity

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### Emergency Preparedness

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### Occupational Radiation Safety



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## Public Radiation Safety

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### 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.

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### Miscellaneous

Last modified : April 07, 2009

# Millstone 3

## 1Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: FIN Finding

#### **FIN 05000423/2009002-01, Failure to Control Steam Generator Water Levels Results in Automatic Reactor Trip**

Green. A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to control Unit 3 Steam Generator (SG) levels while operating at power. Specifically, Dominion's failure to control SG levels resulted in a reactor trip while reducing power for a plant shutdown. Dominion entered this issue into their corrective action program (CR113512) and corrective actions included conducting just-in-time (JIT) training on low power feed station operation for licensed operators prior to reactor start up.

This finding is more than minor because it was associated with the Human 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 power operations. The inspectors conducted a Phase 1 screening, in accordance with IMC 0609, "Significance Determination Process," and determined that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, Work Control, because Dominion did not coordinate work activities, consistent with nuclear safety, to minimize distractions to control room personnel and to provide sufficient support to ensure adequate control of SG levels during low power operations. [H.3.(b)] (Section 4OA3.1).

Inspection Report# : [2009002](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Oct 20, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **NCV 05000423/2008010-01, RHR pumps inoperable in the event of a LLOCA, due to a suction air void**

• Green. The team identified a noncited violation (NCV) of Technical Specification (TS) 3.5.2.d which requires an operable residual heat removal (RHR) pump for each train of the emergency core cooling system (ECCS). The team found that Dominion did not maintain the 24-inch outside diameter piping connecting the refueling water storage tank (RWST) to the suction of the ECCS pumps sufficiently full of water to ensure operability of the RHR pumps following a large break loss-of-coolant accident (LLOCA). Additionally, the team determined that TS Surveillance 4.5.2.b requires that every 31 days Dominion verify the ECCS piping full of water but this section of piping was not checked. While performing actions to address NRC Generic Letter 2008-001, Dominion identified the air void and determined the piping did not have sufficient slope to allow venting back to the RWST. The team concluded the air void had the potential to air bind and make the RHR pumps inoperable during a LLOCA event. Following identification of the air void during the 2008 refueling outage, Dominion isolated and drained the piping, installed a vent valve, refilled the piping, and confirmed that the piping was full using an ultrasonic testing (UT) measurement.

The performance deficiency was a failure to maintain the common ECCS suction piping sufficiently full of water, as required by TS surveillance 4.5.2.b, to ensure RHR pump operability in the event of a LLOCA, as required by TS

3.5.2.d. The finding is more than minor because it is associated with the design control attribute of the Mitigating Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the Phase 1 screening identified that this issue was a design/qualification deficiency which resulted in the loss of the RHR system low pressure injection (LPI) safety function and required a Phase 2 evaluation.

In accordance with IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," a Region I senior reactor analyst determined that the finding was of very low safety significance (Green) using a modified Phase 2 analysis and the MP3 plant-specific Phase 2 Notebook worksheet for a LLOCA. This assessment resulted in an increase in the core damage frequency on the order of low E-8 per year, which was dominated by the LLOCA frequency of E-5 per year and the probability of high pressure injection (HPI) failure, due to some other unrelated cause. The safety injection, charging and recirculation spray systems were still available to prevent core damage following a LLOCA initiating event, by performing the HPI and high pressure recirculation safety functions.

The finding did not have a crosscutting aspect.

Inspection Report# : [2008010](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Fire Protection Deficiency Resulting in Potential Loss of All Charging Pumps**

The inspectors identified a Green, NCV of the Millstone Unit 3 operating license condition 2.H, "Fire Protection," in that Dominion failed to correct a fire protection program deficiency and assure that one train of charging would remain free of fire damage for fire scenarios that could produce spurious closure of a Volume Control Tank (VCT) outlet or charging pump suction motor operated valve. This issue was first identified by Dominion on September 16, 2004, but corrective actions to thoroughly evaluate the issue relative to the fire protection program were extended on several occasions. For this issue Dominion initiated corrective actions to implement fire protection program compensatory measures, maximize the availability of the C charging pump, and identify and implement a long term resolution.

The inspectors determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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 availability of the charging system for nine fire scenarios was not ensured. Phase 1, and a combination of Phase 2 and 3 of the NRC's IMC 0609, Appendix F, "Fire Protection Significance Determination Process" were used to determine that this finding was of very low safety significance (Green), with an estimated total core damage frequency (CDF) of 1 in 1,400,000 years in the range of 7E-7 per reactor operating year. The inspectors determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Dominion, since September 16, 2004, did not thoroughly evaluate the issue regarding potential fire induced spurious closure of charging pumps suction valves which could cause damage to the running charging pump and potentially impact post-fire safe shutdown operation. This issue is reflective of current licensee performance because Dominion recently extended corrective action due dates to perform a thorough safe-shutdown evaluation of the issue. [P.1(c)]. (Section 1R05)

Inspection Report# : [2008003](#) (*pdf*)

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## **Barrier Integrity**

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : May 28, 2009

# Millstone 3

## 2Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: FIN Finding

#### **FIN 05000423/2009002-01, Failure to Control Steam Generator Water Levels Results in Automatic Reactor Trip**

Green. A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to control Unit 3 Steam Generator (SG) levels while operating at power. Specifically, Dominion's failure to control SG levels resulted in a reactor trip while reducing power for a plant shutdown. Dominion entered this issue into their corrective action program (CR113512) and corrective actions included conducting just-in-time (JIT) training on low power feed station operation for licensed operators prior to reactor start up.

This finding is more than minor because it was associated with the Human 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 power operations. The inspectors conducted a Phase 1 screening, in accordance with IMC 0609, "Significance Determination Process," and determined that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, Work Control, because Dominion did not coordinate work activities, consistent with nuclear safety, to minimize distractions to control room personnel and to provide sufficient support to ensure adequate control of SG levels during low power operations. [H.3.(b)] (Section 4OA3.1).

Inspection Report# : [2009002](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Mar 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Performance Testing of Safety Related Batteries**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," in that, Unit 2 and Unit 3 written test procedures for battery performance testing were not adequate and did not ensure that test results were properly documented and evaluated to assure that the test requirements were satisfied. Specifically, the battery performance test procedure did not ensure that the correct discharge rate was used, that the test was terminated correctly, and that the battery capacity and subsequent decrease in capacity were correctly calculated and evaluated. In response, Dominion entered the issue into the corrective action program and determined that there was sufficient battery margin to assure operability of the station batteries.

The finding is more than minor because it is associated with the procedure quality 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 team determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of Human Performance, Resources Component, because Dominion did not ensure that complete, accurate, and up-to-date procedures were available and adequate to assure nuclear safety. Specifically, the battery performance test procedure did not ensure that the correct discharge rate was used, that the test was terminated correctly, and that the battery capacity and subsequent decrease in capacity were correctly calculated and evaluated.

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Mar 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Design Control for Potential Air Entrapment in Recirculation Spray System Heat Exchangers**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," in that Dominion did not ensure the adequacy of the recirculation spray system heat exchanger design. Specifically, Dominion had not performed analyses or testing to evaluate the potential of air entrapment in the recirculation spray system heat exchangers under post-accident conditions. In response, Dominion entered this issue into their corrective action program and performed analyses to demonstrate that this condition did not render associated equipment inoperable.

This finding is more than minor because it is 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. The team determined the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in a loss of recirculation spray system operability or functionality. This finding did not have a cross-cutting aspect because it does not reflect current licensee performance.

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Oct 20, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **NCV 05000423/2008010-01, RHR pumps inoperable in the event of a LLOCA, due to a suction air void**

• Green. The team identified a noncited violation (NCV) of Technical Specification (TS) 3.5.2.d which requires an operable residual heat removal (RHR) pump for each train of the emergency core cooling system (ECCS). The team found that Dominion did not maintain the 24-inch outside diameter piping connecting the refueling water storage tank (RWST) to the suction of the ECCS pumps sufficiently full of water to ensure operability of the RHR pumps following a large break loss-of-coolant accident (LLOCA). Additionally, the team determined that TS Surveillance 4.5.2.b requires that every 31 days Dominion verify the ECCS piping full of water but this section of piping was not checked. While performing actions to address NRC Generic Letter 2008-001, Dominion identified the air void and determined the piping did not have sufficient slope to allow venting back to the RWST. The team concluded the air void had the potential to air bind and make the RHR pumps inoperable during a LLOCA event. Following identification of the air void during the 2008 refueling outage, Dominion isolated and drained the piping, installed a vent valve, refilled the piping, and confirmed that the piping was full using an ultrasonic testing (UT) measurement.

The performance deficiency was a failure to maintain the common ECCS suction piping sufficiently full of water, as required by TS surveillance 4.5.2.b, to ensure RHR pump operability in the event of a LLOCA, as required by TS



3.5.2.d. The finding is more than minor because it is associated with the design control attribute of the Mitigating Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the Phase 1 screening identified that this issue was a design/qualification deficiency which resulted in the loss of the RHR system low pressure injection (LPI) safety function and required a Phase 2 evaluation.

In accordance with IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," a Region I senior reactor analyst determined that the finding was of very low safety significance (Green) using a modified Phase 2 analysis and the MP3 plant-specific Phase 2 Notebook worksheet for a LLOCA. This assessment resulted in an increase in the core damage frequency on the order of low E-8 per year, which was dominated by the LLOCA frequency of E-5 per year and the probability of high pressure injection (HPI) failure, due to some other unrelated cause. The safety injection, charging and recirculation spray systems were still available to prevent core damage following a LLOCA initiating event, by performing the HPI and high pressure recirculation safety functions.

The finding did not have a crosscutting aspect.

Inspection Report# : [2008010](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **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.

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## **Miscellaneous**

Last modified : August 31, 2009

# Millstone 3

## 3Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: FIN Finding

#### **FIN 05000423/2009002-01, Failure to Control Steam Generator Water Levels Results in Automatic Reactor Trip**

Green. A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to control Unit 3 Steam Generator (SG) levels while operating at power. Specifically, Dominion's failure to control SG levels resulted in a reactor trip while reducing power for a plant shutdown. Dominion entered this issue into their corrective action program (CR113512) and corrective actions included conducting just-in-time (JIT) training on low power feed station operation for licensed operators prior to reactor start up.

This finding is more than minor because it was associated with the Human 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 power operations. The inspectors conducted a Phase 1 screening, in accordance with IMC 0609, "Significance Determination Process," and determined that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, Work Control, because Dominion did not coordinate work activities, consistent with nuclear safety, to minimize distractions to control room personnel and to provide sufficient support to ensure adequate control of SG levels during low power operations. [H.3.(b)] (Section 40A3.1).

Inspection Report# : [2009002](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Mar 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Performance Testing of Safety Related Batteries**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," in that, Unit 2 and Unit 3 written test procedures for battery performance testing were not adequate and did not ensure that test results were properly documented and evaluated to assure that the test requirements were satisfied. Specifically, the battery performance test procedure did not ensure that the correct discharge rate was used, that the test was terminated correctly, and that the battery capacity and subsequent decrease in capacity were correctly calculated and evaluated. In response, Dominion entered the issue into the corrective action program and determined that there was sufficient battery margin to assure operability of the station batteries.

The finding is more than minor because it is associated with the procedure quality 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 team determined the finding was of

very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of Human Performance, Resources Component, because Dominion did not ensure that complete, accurate, and up-to-date procedures were available and adequate to assure nuclear safety. Specifically, the battery performance test procedure did not ensure that the correct discharge rate was used, that the test was terminated correctly, and that the battery capacity and subsequent decrease in capacity were correctly calculated and evaluated.

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Mar 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Design Control for Potential Air Entrapment in Recirculation Spray System Heat Exchangers**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," in that Dominion did not ensure the adequacy of the recirculation spray system heat exchanger design. Specifically, Dominion had not performed analyses or testing to evaluate the potential of air entrapment in the recirculation spray system heat exchangers under post-accident conditions. In response, Dominion entered this issue into their corrective action program and performed analyses to demonstrate that this condition did not render associated equipment inoperable.

This finding is more than minor because it is 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. The team determined the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in a loss of recirculation spray system operability or functionality. This finding did not have a cross-cutting aspect because it does not reflect licensee performance.

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Oct 20, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **NCV 05000423/2008010-01, RHR pumps inoperable in the event of a LLOCA, due to a suction air void**

• Green. The team identified a noncited violation (NCV) of Technical Specification (TS) 3.5.2.d which requires an operable residual heat removal (RHR) pump for each train of the emergency core cooling system (ECCS). The team found that Dominion did not maintain the 24-inch outside diameter piping connecting the refueling water storage tank (RWST) to the suction of the ECCS pumps sufficiently full of water to ensure operability of the RHR pumps following a large break loss-of-coolant accident (LLOCA). Additionally, the team determined that TS Surveillance 4.5.2.b requires that every 31 days Dominion verify the ECCS piping full of water but this section of piping was not checked. While performing actions to address NRC Generic Letter 2008-001, Dominion identified the air void and determined the piping did not have sufficient slope to allow venting back to the RWST. The team concluded the air void had the potential to air bind and make the RHR pumps inoperable during a LLOCA event. Following identification of the air void during the 2008 refueling outage, Dominion isolated and drained the piping, installed a vent valve, refilled the piping, and confirmed that the piping was full using an ultrasonic testing (UT) measurement.

The performance deficiency was a failure to maintain the common ECCS suction piping sufficiently full of water, as required by TS surveillance 4.5.2.b, to ensure RHR pump operability in the event of a LLOCA, as required by TS 3.5.2.d. The finding is more than minor because it is associated with the design control attribute of the Mitigating Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems

that respond to initiating events to prevent undesirable consequences. In accordance with NRC IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the Phase 1 screening identified that this issue was a design/qualification deficiency which resulted in the loss of the RHR system low pressure injection (LPI) safety function and required a Phase 2 evaluation.

In accordance with IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," a Region I senior reactor analyst determined that the finding was of very low safety significance (Green) using a modified Phase 2 analysis and the MP3 plant-specific Phase 2 Notebook worksheet for a LLOCA. This assessment resulted in an increase in the core damage frequency on the order of low E-8 per year, which was dominated by the LLOCA frequency of E-5 per year and the probability of high pressure injection (HPI) failure, due to some other unrelated cause. The safety injection, charging and recirculation spray systems were still available to prevent core damage following a LLOCA initiating event, by performing the HPI and high pressure recirculation safety functions.

The finding did not have a crosscutting aspect.

Inspection Report# : [2008010](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **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.

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## **Miscellaneous**

Last modified : December 10, 2009

# Millstone 3

## 4Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: FIN Finding

#### **FIN 05000423/2009002-01, Failure to Control Steam Generator Water Levels Results in Automatic Reactor Trip**

Green. A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to control Unit 3 Steam Generator (SG) levels while operating at power. Specifically, Dominion's failure to control SG levels resulted in a reactor trip while reducing power for a plant shutdown. Dominion entered this issue into their corrective action program (CR113512) and corrective actions included conducting just-in-time (JIT) training on low power feed station operation for licensed operators prior to reactor start up.

This finding is more than minor because it was associated with the Human 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 power operations. The inspectors conducted a Phase 1 screening, in accordance with IMC 0609, "Significance Determination Process," and determined that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, Work Control, because Dominion did not coordinate work activities, consistent with nuclear safety, to minimize distractions to control room personnel and to provide sufficient support to ensure adequate control of SG levels during low power operations. [H.3.(b)] (Section 4OA3.1).

Inspection Report# : [2009002](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Mar 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Performance Testing of Safety Related Batteries**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," in that, Unit 2 and Unit 3 written test procedures for battery performance testing were not adequate and did not ensure that test results were properly documented and evaluated to assure that the test requirements were satisfied. Specifically, the battery performance test procedure did not ensure that the correct discharge rate was used, that the test was terminated correctly, and that the battery capacity and subsequent decrease in capacity were correctly calculated and evaluated. In response, Dominion entered the issue into the corrective action program and determined that there was sufficient battery margin to assure operability of the station batteries.

The finding is more than minor because it is associated with the procedure quality 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 team determined the finding was of

very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of Human Performance, Resources Component, because Dominion did not ensure that complete, accurate, and up-to-date procedures were available and adequate to assure nuclear safety. Specifically, the battery performance test procedure did not ensure that the correct discharge rate was used, that the test was terminated correctly, and that the battery capacity and subsequent decrease in capacity were correctly calculated and evaluated.

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Mar 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Design Control for Potential Air Entrapment in Recirculation Spray System Heat Exchangers**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," in that Dominion did not ensure the adequacy of the recirculation spray system heat exchanger design.

Specifically, Dominion had not performed analyses or testing to evaluate the potential of air entrapment in the recirculation spray system heat exchangers under post-accident conditions. In response, Dominion entered this issue into their corrective action program and performed analyses to demonstrate that this condition did not render associated equipment inoperable.

This finding is more than minor because it is 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. The team determined the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in a loss of recirculation spray system operability or functionality. This finding did not have a cross-cutting aspect because it does not reflect current licensee performance.

Inspection Report# : [2009006](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **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.

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## Miscellaneous

Last modified : March 01, 2010

# Millstone 3

## 1Q/2010 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

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### Barrier Integrity

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### Emergency Preparedness

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### Occupational Radiation Safety

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### Public Radiation Safety

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### 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.

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### Miscellaneous

Last modified : May 26, 2010

# Millstone 3

## 2Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2010003-03, Reactor Trip Caused by Loss of Positive Control of Steam Generator Level**

•Green. A self-revealing finding (FIN) of very low safety significance was identified for Dominion's failure to implement effective corrective actions for known degraded conditions associated with the steam generator (SG) water level control system. Specifically, the instrument control system for the feed regulating bypass valves (FRBV) had not been adequately designed and maintained. The degraded adverse conditions had not been corrected despite prior opportunities. The combination of these degraded conditions led to a reactor trip on May 17, 2010. Dominion entered this issue into their corrective action program.

This finding is more than minor because it was similar to NRC IMC 0612, Appendix E, "Examples of Minor Issues," Example 4F, in that the failure to correct a condition adverse to quality resulted in a reactor trip. It is 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. This finding has very low safety significance (Green) because it did not affect the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program because Dominion did not take appropriate corrective actions to address the longstanding adverse conditions associated with control of the FRBVs. [P.1(d)] (Section 71111.20).

Inspection Report# : [2010003](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-02 Charging Pump Overheating and Cavitation during RCS Loop Vacuum Fill**

•Green. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", was identified for Dominion's failure to have an adequate procedure for starting the charging pumps. Specifically, OP 3304A, "Charging and Letdown," did not require verification of Reactor Plant Closed Cooling Water (RPCCW) flow to the seal water heat exchanger. On May 1, 2010, Dominion started the "B" centrifugal charging pump without cooling water supplying the seal return heat exchanger. This caused the charging pump to overheat and cavitate, and resulted in the pump being declared inoperable. Dominion entered this issue into their corrective action program.

This finding was more than minor because it was associated with the configuration control attribute of the mitigating systems cornerstone and 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 (Green) because it did not result in a loss of safety function, a loss of safety function of a single train for greater than its technical specification allowed outage time, or a loss of risk significant non-technical specification train of equipment. Additionally, it is not risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of Human Performance, Work Control because Dominion relied on the work control process to assure that the RPCCW cooling water was in

service to the seal water heat exchanger at the time that the RCS loop vacuum fill was scheduled. The work control process was insufficiently robust to ensure that cooling water was supplied to the seal water heat exchanger during charging pump operations. [H.3.b]. (Section 71111.20)

Inspection Report# : [2010003](#) (*pdf*)

**Significance:** SL-IV Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-01, Failure to Make a 10 CFR 50.72 (b)(3)(v)(c) Report for an Inoperable Secondary Containment**

•Severity Level IV. The inspectors identified a NCV of 10 CFR 50.72 “Immediate Notification Requirements for Operating Nuclear Power Reactors” for Dominion’s failure to make a timely eight-hour report for a condition that, at the time of discovery, could have prevented secondary containment from fulfilling its safety function. Dominion took immediate corrective action to restore operability of secondary containment, initiated a 10 CFR 50.72 Report and entered the issue into their corrective action program.

Per NRC Enforcement Policy Supplement I- Reactor Operations, Example D.4, a failure to make a required Licensee Event Report (LER) is categorized as a Severity Level IV violation. The inspectors considered Dominion’s failure to make the required 50.72 report for 5 days to meet the intent of this example. This finding has a cross cutting aspect in the area of Human Performance, Decision Making, because Dominion did not use conservative assumptions in their decision making when they could not demonstrate that secondary containment would provide its safety function.[H.1 (b)] (Section 71111.04)

Inspection Report# : [2010003](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : September 02, 2010

# Millstone 3

## 3Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2010003-03, Reactor Trip Caused by Loss of Positive Control of Steam Generator Level**

•Green. A self-revealing finding (FIN) of very low safety significance was identified for Dominion's failure to implement effective corrective actions for known degraded conditions associated with the steam generator (SG) water level control system. Specifically, the instrument control system for the feed regulating bypass valves (FRBV) had not been adequately designed and maintained. The degraded adverse conditions had not been corrected despite prior opportunities. The combination of these degraded conditions led to a reactor trip on May 17, 2010. Dominion entered this issue into their corrective action program.

This finding is more than minor because it was similar to NRC IMC 0612, Appendix E, "Examples of Minor Issues," Example 4F, in that the failure to correct a condition adverse to quality resulted in a reactor trip. It is 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. This finding has very low safety significance (Green) because it did not affect the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program because Dominion did not take appropriate corrective actions to address the longstanding adverse conditions associated with control of the FRBVs. [P.1(d)] (Section 71111.20).

Inspection Report# : [2010003](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-02 Charging Pump Overheating and Cavitation during RCS Loop Vacuum Fill**

•Green. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", was identified for Dominion's failure to have an adequate procedure for starting the charging pumps. Specifically, OP 3304A, "Charging and Letdown," did not require verification of Reactor Plant Closed Cooling Water (RPCCW) flow to the seal water heat exchanger. On May 1, 2010, Dominion started the "B" centrifugal charging pump without cooling water supplying the seal return heat exchanger. This caused the charging pump to overheat and cavitate, and resulted in the pump being declared inoperable. Dominion entered this issue into their corrective action program.

This finding was more than minor because it was associated with the configuration control attribute of the mitigating systems cornerstone and 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 (Green) because it did not result in a loss of safety function, a loss of safety function of a single train for greater than its technical specification allowed outage time, or a loss of risk significant non-technical specification train of equipment. Additionally, it is not risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of Human Performance, Work Control because Dominion relied on the work control process to assure that the RPCCW cooling water was in



service to the seal water heat exchanger at the time that the RCS loop vacuum fill was scheduled. The work control process was insufficiently robust to ensure that cooling water was supplied to the seal water heat exchanger during charging pump operations. [H.3.b]. (Section 71111.20)

Inspection Report# : [2010003](#) (*pdf*)

**Significance:** SL-IV Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-01, Failure to Make a 10 CFR 50.72 (b)(3)(v)(c) Report for an Inoperable Secondary Containment**

•Severity Level IV. The inspectors identified a NCV of 10 CFR 50.72 “Immediate Notification Requirements for Operating Nuclear Power Reactors” for Dominion’s failure to make a timely eight-hour report for a condition that, at the time of discovery, could have prevented secondary containment from fulfilling its safety function. Dominion took immediate corrective action to restore operability of secondary containment, initiated a 10 CFR 50.72 Report and entered the issue into their corrective action program.

Per NRC Enforcement Policy Supplement I- Reactor Operations, Example D.4, a failure to make a required Licensee Event Report (LER) is categorized as a Severity Level IV violation. The inspectors considered Dominion’s failure to make the required 50.72 report for 5 days to meet the intent of this example. This finding has a cross cutting aspect in the area of Human Performance, Decision Making, because Dominion did not use conservative assumptions in their decision making when they could not demonstrate that secondary containment would provide its safety function.[H.1 (b)] (Section 71111.04)

Inspection Report# : [2010003](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : November 29, 2010

# Millstone 3

## 4Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2010003-03, Reactor Trip Caused by Loss of Positive Control of Steam Generator Level**

•Green. A self-revealing finding (FIN) of very low safety significance was identified for Dominion's failure to implement effective corrective actions for known degraded conditions associated with the steam generator (SG) water level control system. Specifically, the instrument control system for the feed regulating bypass valves (FRBV) had not been adequately designed and maintained. The degraded adverse conditions had not been corrected despite prior opportunities. The combination of these degraded conditions led to a reactor trip on May 17, 2010. Dominion entered this issue into their corrective action program.

This finding is more than minor because it was similar to NRC IMC 0612, Appendix E, "Examples of Minor Issues," Example 4F, in that the failure to correct a condition adverse to quality resulted in a reactor trip. It is 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. This finding has very low safety significance (Green) because it did not affect the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program because Dominion did not take appropriate corrective actions to address the longstanding adverse conditions associated with control of the FRBVs. [P.1(d)] (Section 71111.20).

Inspection Report# : [2010003](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2010005-01, Failure to Take Adequate Corrective Actions for a Broken JW Banjo Bolt on the 3B EDG).**

Green. The inspectors identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," in that, Dominion did not take adequate corrective action following the identification of a degraded condition. Maintenance personnel identified a broken jacket water fitting (banjo bolt) on the 3'B' emergency diesel generator (EDG), but a condition report (CR) was not initiated. Subsequently, an additional similarly degraded fitting resulted in extended unavailability on the 3'B' EDG. In response, Dominion entered the issue into the corrective action program and implemented acceptable corrective actions.

The finding is 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. The inspectors determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent an actual loss of system safety function of a single train for greater than its technical specification allowed outage time, and did not 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 Problem Identification and Resolution, Corrective Action Program Component, because Dominion did not ensure that issues potentially impacting nuclear safety were promptly identified, fully evaluated, and that actions were taken to address safety issues in a timely manner, commensurate with their safety significance. Specifically, Dominion did not initiate a CR in September 2009 for a degraded condition on the safety-related 3'B' EDG (IMC 0310, Aspect P.1(a)). (Section 405A)

Inspection Report# : [2010005](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2010008-01; 05000423/2010008-01, Failure to Properly Control Fire Fighting Strategies.**

Green. The team identified a non-cited violation of Millstone Unit 2 Operating License Condition 2.C.(3), and Unit 3 Operating License Condition 2.H, for the failure to implement all provisions of the approved Fire Protection Programs. Specifically, Dominion did not implement adequate review, approval and distribution of fire fighting strategies to provide for the adequate development and maintenance of effective strategies. As a result, the team found that Dominion did not provide adequate guidance in the fire fighting strategies for several areas that included the Unit 2 "8" emergency diesel generator (EDG) room, and the Unit 3 west switchgear room. This issue was entered into Dominion's corrective action program as condition report (CR) 388786. The team determined that the failure to administratively control fire fighting strategies as required by the fire protection program was a performance deficiency. This finding was more than minor because it adversely affected the availability and capability objectives of the protection against external events (i.e., fire) attribute under the Mitigating Systems Cornerstone. Specifically, the above examples would likely cause delays in manual fire fighting activities and, therefore, adversely affected the defense-in-depth aspect of the fire protection program to limit fire damage by quick suppression of those fires that occur. The team performed a Phase 1 SDP screening, in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected fire prevention and administrative controls, and was screened to very low safety significance (Green) because this failure to control fire fighting strategies was determined to represent a low degradation rating. This finding had a cross-cutting aspect in the area of human performance because Dominion failed to ensure complete and accurate fire fighting strategies were available to the fire brigade to support timely extinguishment of fires. [H.2(c)] (Section 1 R05.03)

Inspection Report# : [2010008](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: NRC

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-02 Charging Pump Overheating and Cavitation during RCS Loop Vacuum Fill**

•Green. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings”, was identified for Dominion’s failure to have an adequate procedure for starting the charging pumps. Specifically, OP 3304A, “Charging and Letdown,” did not require verification of Reactor Plant Closed Cooling Water (RPCCW) flow to the seal water heat exchanger. On May 1, 2010, Dominion started the “B” centrifugal charging pump without cooling water supplying the seal return heat exchanger. This caused the charging pump to overheat and cavitate, and resulted in the pump being declared inoperable. Dominion entered this issue into their corrective action program.

This finding was more than minor because it was associated with the configuration control attribute of the mitigating systems cornerstone and 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 (Green) because it did not result in a loss of safety function, a loss of safety function of a single train for greater than its technical specification allowed outage time, or a loss of risk significant non-technical specification train of equipment. Additionally, it is not risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of Human Performance, Work Control because Dominion relied on the work control process to assure that the RPCCW cooling water was in service to the seal water heat exchanger at the time that the RCS loop vacuum fill was scheduled. The work control process was insufficiently robust to ensure that cooling water was supplied to the seal water heat exchanger during charging pump operations. [H.3.b]. (Section 71111.20)

Inspection Report# : [2010003](#) (pdf)

**Significance: SL-IV** Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-01, Failure to Make a 10 CFR 50.72 (b)(3)(v)(c) Report for an Inoperable Secondary Containment**

•Severity Level IV. The inspectors identified a NCV of 10 CFR 50.72 “Immediate Notification Requirements for Operating Nuclear Power Reactors” for Dominion’s failure to make a timely eight-hour report for a condition that, at the time of discovery, could have prevented secondary containment from fulfilling its safety function. Dominion took immediate corrective action to restore operability of secondary containment, initiated a 10 CFR 50.72 Report and entered the issue into their corrective action program.

Per NRC Enforcement Policy Supplement I- Reactor Operations, Example D.4, a failure to make a required Licensee Event Report (LER) is categorized as a Severity Level IV violation. The inspectors considered Dominion’s failure to make the required 50.72 report for 5 days to meet the intent of this example. This finding has a cross cutting aspect in the area of Human Performance, Decision Making, because Dominion did not use conservative assumptions in their decision making when they could not demonstrate that secondary containment would provide its safety function.[H.1 (b)] (Section 71111.04)

Inspection Report# : [2010003](#) (pdf)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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# Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : March 03, 2011



# Millstone 3

## 1Q/2011 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2010003-03, Reactor Trip Caused by Loss of Positive Control of Steam Generator Level**

•Green. A self-revealing finding (FIN) of very low safety significance was identified for Dominion's failure to implement effective corrective actions for known degraded conditions associated with the steam generator (SG) water level control system. Specifically, the instrument control system for the feed regulating bypass valves (FRBV) had not been adequately designed and maintained. The degraded adverse conditions had not been corrected despite prior opportunities. The combination of these degraded conditions led to a reactor trip on May 17, 2010. Dominion entered this issue into their corrective action program.

This finding is more than minor because it was similar to NRC IMC 0612, Appendix E, "Examples of Minor Issues," Example 4F, in that the failure to correct a condition adverse to quality resulted in a reactor trip. It is 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. This finding has very low safety significance (Green) because it did not affect the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program because Dominion did not take appropriate corrective actions to address the longstanding adverse conditions associated with control of the FRBVs. [P.1(d)] (Section 71111.20).

Inspection Report# : [2010003](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-01, Failure to Prevent Safety Related Cables from Being Submerged**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for Dominion's failure to maintain safety related cables in an environment for which they were designed. Specifically, 480V safety related cables, which are not qualified for continuous submergence, were submerged in a cable vault for an undetermined length of time. Dominion took immediate corrective action to remove the water from the cable vault and entered the issue into their corrective action program (CAP).

The finding is more than minor because it was associated with the Protection Against External Events 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 (Green) because the finding was not a design or qualification deficiency which resulted in a loss of operability or functionality, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the

area of Problem Identification and Resolution, Operating Experience (OE), because Dominion did not implement OE through changes in the stations programs for inspecting underground cables. [P.2(b)] (Section 1R06)

Inspection Report# : [2011002](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-02, Improper Restoration of Air Conditioning Equipment Following Maintenance Results in Inoperability of 'B' Train of Recirculation Spray System**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for Dominion's failure to properly restore 3HVQ\*ACUS2B, Containment Recirculation Pumps and Coolers Area B Air Conditioning Unit, following maintenance. This resulted in an additional 24 hours of inoperability of the 'B' train of the recirculation spray system (RSS). Dominion's entered the issue into their corrective action program.

The finding is more than minor because it was similar to NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4b in that not following written instructions in the tagging cover sheet caused the 'B' train of RSS to be inoperable for an additional 24 hours. The finding was associated with the Human 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 (Green) because the finding did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Human Performance, Work Practices, because operations personnel did not follow the instructions on the tagging cover sheet when returning the air conditioning unit to service. [H.4(c)] (Section 1R19)

Inspection Report# : [2011002](#) (*pdf*)

**Significance:**  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2010005-01, Failure to Take Adequate Corrective Actions for a Broken JW Banjo Bolt on the 3B EDG).**

Green. The inspectors identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," in that, Dominion did not take adequate corrective action following the identification of a degraded condition. Maintenance personnel identified a broken jacket water fitting (banjo bolt) on the 3'B' emergency diesel generator (EDG), but a condition report (CR) was not initiated. Subsequently, an additional similarly degraded fitting resulted in extended unavailability on the 3'B' EDG. In response, Dominion entered the issue into the corrective action program and implemented acceptable corrective actions.

The finding is 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. The inspectors determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent an actual loss of system safety function of a single train for greater than its technical specification allowed outage time, and did not 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 Problem Identification and Resolution, Corrective Action Program Component, because Dominion did not ensure that issues potentially impacting nuclear safety were promptly identified, fully evaluated, and that actions were taken to address safety issues in a timely manner, commensurate with their safety significance. Specifically, Dominion did not initiate a CR in September 2009 for a degraded condition on

the safety-related 3'B' EDG (IMC 0310, Aspect P.1(a)). (Section 405A)

Inspection Report# : [2010005](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2010008-01; 05000423/2010008-01, Failure to Properly Control Fire Fighting Strategies.**

Green. The team identified a non-cited violation of Millstone Unit 2 Operating License Condition 2.C.(3), and Unit 3 Operating License Condition 2.H, for the failure to implement all provisions of the approved Fire Protection Programs. Specifically, Dominion did not implement adequate review, approval and distribution of fire fighting strategies to provide for the adequate development and maintenance of effective strategies. As a result, the team found that Dominion did not provide adequate guidance in the fire fighting strategies for several areas that included the Unit 2 "8" emergency diesel generator (EDG) room, and the Unit 3 west switchgear room. This issue was entered into Dominion's corrective action program as condition report (CR) 388786. The team determined that the failure to administratively control fire fighting strategies as required by the fire protection program was a performance deficiency. This finding was more than minor because it adversely affected the availability and capability objectives of the protection against external events (i.e., fire) attribute under the Mitigating Systems Cornerstone. Specifically, the above examples would likely cause delays in manual fire fighting activities and, therefore, adversely affected the defense-in-depth aspect of the fire protection program to limit fire damage by quick suppression of those fires that occur. The team performed a Phase 1 SDP screening, in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected fire prevention and administrative controls, and was screened to very low safety significance (Green) because this failure to control fire fighting strategies was determined to represent a low degradation rating. This finding had a cross-cutting aspect in the area of human performance because Dominion failed to ensure complete and accurate fire fighting strategies were available to the fire brigade to support timely extinguishment of fires. [H.2(c)] (Section 1 R05.03)

Inspection Report# : [2010008](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: NRC

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-02 Charging Pump Overheating and Cavitation during RCS Loop Vacuum Fill**

•Green. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", was identified for Dominion's failure to have an adequate procedure for starting the charging pumps. Specifically, OP

3304A, “Charging and Letdown,” did not require verification of Reactor Plant Closed Cooling Water (RPCCW) flow to the seal water heat exchanger. On May 1, 2010, Dominion started the “B” centrifugal charging pump without cooling water supplying the seal return heat exchanger. This caused the charging pump to overheat and cavitate, and resulted in the pump being declared inoperable. Dominion entered this issue into their corrective action program.

This finding was more than minor because it was associated with the configuration control attribute of the mitigating systems cornerstone and 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 (Green) because it did not result in a loss of safety function, a loss of safety function of a single train for greater than its technical specification allowed outage time, or a loss of risk significant non-technical specification train of equipment. Additionally, it is not risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of Human Performance, Work Control because Dominion relied on the work control process to assure that the RPCCW cooling water was in service to the seal water heat exchanger at the time that the RCS loop vacuum fill was scheduled. The work control process was insufficiently robust to ensure that cooling water was supplied to the seal water heat exchanger during charging pump operations. [H.3.b]. (Section 71111.20)

Inspection Report# : [2010003](#) (*pdf*)

**Significance:** SL-IV Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2010003-01, Failure to Make a 10 CFR 50.72 (b)(3)(v)(c) Report for an Inoperable Secondary Containment**

•Severity Level IV. The inspectors identified a NCV of 10 CFR 50.72 “Immediate Notification Requirements for Operating Nuclear Power Reactors” for Dominion’s failure to make a timely eight-hour report for a condition that, at the time of discovery, could have prevented secondary containment from fulfilling its safety function. Dominion took immediate corrective action to restore operability of secondary containment, initiated a 10 CFR 50.72 Report and entered the issue into their corrective action program.

Per NRC Enforcement Policy Supplement I- Reactor Operations, Example D.4, a failure to make a required Licensee Event Report (LER) is categorized as a Severity Level IV violation. The inspectors considered Dominion’s failure to make the required 50.72 report for 5 days to meet the intent of this example. This finding has a cross cutting aspect in the area of Human Performance, Decision Making, because Dominion did not use conservative assumptions in their decision making when they could not demonstrate that secondary containment would provide its safety function.[H.1 (b)] (Section 71111.04)

Inspection Report# : [2010003](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : June 07, 2011

# Millstone 3

## 2Q/2011 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2011003-01, Failure to Take Timely Corrective Actions for Dealloying of Aluminum Bronze Service Water Valves).**

• Green. The inspectors identified a Green NCV of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action in that Dominion did not take timely corrective action to address repetitive failures of aluminum-bronze (Al-Br) service water valves that were installed in safety related support systems from the process of de-alloying. Specifically, Dominion did not implement a plan to replace 3SWP\*V699 (3HVQ\*ACUS1B Bypass Valve), 3SWP\*V018 (3HVQ\*ACUS2B Unit Cooler Inlet Valve) and 3SWP\*V696 (3HVQ\*ACUS2B Unit Cooler Outlet Valve) prior to failure despite identifying in March 2009, that these valves would likely fail within 12 to 18 months. Dominion entered the issue into their corrective action system and replaced the three valves. The finding is similar to example 4.f in NRC Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” in that the failure to correct degraded conditions affected operability of the containment recirculation pumps. The finding is more than minor because it is 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 (Green) because the deficiency resulted in a loss of operability but did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that this finding had a cross-cutting aspect in Problem Identification and Resolution, CAP component, because Dominion did not take appropriate corrective action in a timely manner to address the degraded condition commensurate with their safety significance. [P.1(d)](Section 71111.15)

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-01, Failure to Prevent Safety Related Cables from Being Submerged**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified for Dominion’s failure to maintain safety related cables in an environment for which they were designed. Specifically, 480V safety related cables, which are not qualified for continuous submergence, were submerged in a cable vault for an undetermined length of time. Dominion took immediate corrective action to remove the water from the cable vault and entered the issue into their corrective action program (CAP).

The finding is more than minor because it was associated with the Protection Against External Events 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 (Green) because the finding was not a design or qualification deficiency which resulted in a loss of operability or functionality, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-



significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience (OE), because Dominion did not implement OE through changes in the stations programs for inspecting underground cables. [P.2(b)] (Section 1R06)

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-02, Improper Restoration of Air Conditioning Equipment Following Maintenance Results in Inoperability of 'B' Train of Recirculation Spray System**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for Dominion's failure to properly restore 3HVQ\*ACUS2B, Containment Recirculation Pumps and Coolers Area B Air Conditioning Unit, following maintenance. This resulted in an additional 24 hours of inoperability of the 'B' train of the recirculation spray system (RSS). Dominion's entered the issue into their corrective action program.

The finding is more than minor because it was similar to NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4b in that not following written instructions in the tagging cover sheet caused the 'B' train of RSS to be inoperable for an additional 24 hours. The finding was associated with the Human 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 (Green) because the finding did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Human Performance, Work Practices, because operations personnel did not follow the instructions on the tagging cover sheet when returning the air conditioning unit to service. [H.4(c)] (Section 1R19)

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2010005-01, Failure to Take Adequate Corrective Actions for a Broken JW Banjo Bolt on the 3B EDG).**

Green. The inspectors identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," in that, Dominion did not take adequate corrective action following the identification of a degraded condition. Maintenance personnel identified a broken jacket water fitting (banjo bolt) on the 3'B' emergency diesel generator (EDG), but a condition report (CR) was not initiated. Subsequently, an additional similarly degraded fitting resulted in extended unavailability on the 3'B' EDG. In response, Dominion entered the issue into the corrective action program and implemented acceptable corrective actions.

The finding is 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. The inspectors determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent an actual loss of system safety function of a single train for greater than its technical specification allowed outage time, and did not 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 Problem Identification and Resolution, Corrective Action Program Component, because Dominion did not ensure that issues potentially impacting nuclear safety were promptly

identified, fully evaluated, and that actions were taken to address safety issues in a timely manner, commensurate with their safety significance. Specifically, Dominion did not initiate a CR in September 2009 for a degraded condition on the safety-related 3'B' EDG (IMC 0310, Aspect P.1(a)). (Section 4O5A)

Inspection Report# : [2010005](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2010008-01; 05000423/2010008-01, Failure to Properly Control Fire Fighting Strategies.**

Green. The team identified a non-cited violation of Millstone Unit 2 Operating License Condition 2.C.(3), and Unit 3 Operating License Condition 2.H, for the failure to implement all provisions of the approved Fire Protection Programs. Specifically, Dominion did not implement adequate review, approval and distribution of fire fighting strategies to provide for the adequate development and maintenance of effective strategies. As a result, the team found that Dominion did not provide adequate guidance in the fire fighting strategies for several areas that included the Unit 2 "8" emergency diesel generator (EDG) room, and the Unit 3 west switchgear room. This issue was entered into Dominion's corrective action program as condition report (CR) 388786.

The team determined that the failure to administratively control fire fighting strategies as required by the fire protection program was a performance deficiency. This finding was more than minor because it adversely affected the availability and capability objectives of the protection against external events (i.e., fire) attribute under the Mitigating Systems Cornerstone. Specifically, the above examples would likely cause delays in manual fire fighting activities and, therefore, adversely affected the defense-in-depth aspect of the fire protection program to limit fire damage by quick suppression of those fires that occur. The team performed a Phase 1 SDP screening, in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding affected fire prevention and administrative controls, and was screened to very low safety significance (Green) because this failure to control fire fighting strategies was determined to represent a low degradation rating. This finding had a cross-cutting aspect in the area of human performance because Dominion failed to ensure complete and accurate fire fighting strategies were available to the fire brigade to support timely extinguishment of fires. [H.2(c)] (Section 1 R05.03)

Inspection Report# : [2010008](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

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## Barrier Integrity

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# Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : October 14, 2011

# Millstone 3

## 3Q/2011 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2011003-01, Failure to Take Timely Corrective Actions for Dealloying of Aluminum Bronze Service Water Valves).**

• Green. The inspectors identified a Green NCV of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action in that Dominion did not take timely corrective action to address repetitive failures of aluminum-bronze (Al-Br) service water valves that were installed in safety related support systems from the process of de-alloying. Specifically, Dominion did not implement a plan to replace 3SWP\*V699 (3HVQ\*ACUS1B Bypass Valve), 3SWP\*V018 (3HVQ\*ACUS2B Unit Cooler Inlet Valve) and 3SWP\*V696 (3HVQ\*ACUS2B Unit Cooler Outlet Valve) prior to failure despite identifying in March 2009, that these valves would likely fail within 12 to 18 months. Dominion entered the issue into their corrective action system and replaced the three valves. The finding is similar to example 4.f in NRC Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” in that the failure to correct degraded conditions affected operability of the containment recirculation pumps. The finding is more than minor because it is 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 (Green) because the deficiency resulted in a loss of operability but did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that this finding had a cross-cutting aspect in Problem Identification and Resolution, CAP component, because Dominion did not take appropriate corrective action in a timely manner to address the degraded condition commensurate with their safety significance. [P.1(d)](Section 71111.15)

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-01, Failure to Prevent Safety Related Cables from Being Submerged**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified for Dominion’s failure to maintain safety related cables in an environment for which they were designed. Specifically, 480V safety related cables, which are not qualified for continuous submergence, were submerged in a cable vault for an undetermined length of time. Dominion took immediate corrective action to remove the water from the cable vault and entered the issue into their corrective action program (CAP).

The finding is more than minor because it was associated with the Protection Against External Events 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 (Green) because the finding was not a design or qualification deficiency which resulted in a loss of operability or functionality, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-

significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience (OE), because Dominion did not implement OE through changes in the stations programs for inspecting underground cables. [P.2(b)] (Section 1R06)

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-02, Improper Restoration of Air Conditioning Equipment Following Maintenance Results in Inoperability of 'B' Train of Recirculation Spray System**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for Dominion's failure to properly restore 3HVQ\*ACUS2B, Containment Recirculation Pumps and Coolers Area B Air Conditioning Unit, following maintenance. This resulted in an additional 24 hours of inoperability of the 'B' train of the recirculation spray system (RSS). Dominion's entered the issue into their corrective action program.

The finding is more than minor because it was similar to NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4b in that not following written instructions in the tagging cover sheet caused the 'B' train of RSS to be inoperable for an additional 24 hours. The finding was associated with the Human 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 (Green) because the finding did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Human Performance, Work Practices, because operations personnel did not follow the instructions on the tagging cover sheet when returning the air conditioning unit to service. [H.4(c)] (Section 1R19)

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2010005-01, Failure to Take Adequate Corrective Actions for a Broken JW Banjo Bolt on the 3B EDG).**

Green. The inspectors identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," in that, Dominion did not take adequate corrective action following the identification of a degraded condition. Maintenance personnel identified a broken jacket water fitting (banjo bolt) on the 3'B' emergency diesel generator (EDG), but a condition report (CR) was not initiated. Subsequently, an additional similarly degraded fitting resulted in extended unavailability on the 3'B' EDG. In response, Dominion entered the issue into the corrective action program and implemented acceptable corrective actions.

The finding is 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. The inspectors determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent an actual loss of system safety function of a single train for greater than its technical specification allowed outage time, and did not 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 Problem Identification and Resolution, Corrective Action Program Component, because Dominion did not ensure that issues potentially impacting nuclear safety were promptly

identified, fully evaluated, and that actions were taken to address safety issues in a timely manner, commensurate with their safety significance. Specifically, Dominion did not initiate a CR in September 2009 for a degraded condition on the safety-related 3'B' EDG (IMC 0310, Aspect P.1(a)). (Section 4O5A)

Inspection Report# : [2010005](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : January 04, 2012



# Millstone 3

## 4Q/2011 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2011003-01, Failure to Take Timely Corrective Actions for Dealloying of Aluminum Bronze Service Water Valves).**

• Green. The inspectors identified a Green NCV of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action in that Dominion did not take timely corrective action to address repetitive failures of aluminum-bronze (Al-Br) service water valves that were installed in safety related support systems from the process of de-alloying. Specifically, Dominion did not implement a plan to replace 3SWP\*V699 (3HVQ\*ACUS1B Bypass Valve), 3SWP\*V018 (3HVQ\*ACUS2B Unit Cooler Inlet Valve) and 3SWP\*V696 (3HVQ\*ACUS2B Unit Cooler Outlet Valve) prior to failure despite identifying in March 2009, that these valves would likely fail within 12 to 18 months. Dominion entered the issue into their corrective action system and replaced the three valves. The finding is similar to example 4.f in NRC Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” in that the failure to correct degraded conditions affected operability of the containment recirculation pumps. The finding is more than minor because it is 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 (Green) because the deficiency resulted in a loss of operability but did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that this finding had a cross-cutting aspect in Problem Identification and Resolution, CAP component, because Dominion did not take appropriate corrective action in a timely manner to address the degraded condition commensurate with their safety significance. [P.1(d)](Section 71111.15)

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-01, Failure to Prevent Safety Related Cables from Being Submerged**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified for Dominion’s failure to maintain safety related cables in an environment for which they were designed. Specifically, 480V safety related cables, which are not qualified for continuous submergence, were submerged in a cable vault for an undetermined length of time. Dominion took immediate corrective action to remove the water from the cable vault and entered the issue into their corrective action program (CAP).

The finding is more than minor because it was associated with the Protection Against External Events 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 (Green) because the finding was not a design or qualification deficiency which resulted in a loss of operability or functionality, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-

significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience (OE), because Dominion did not implement OE through changes in the stations programs for inspecting underground cables. [P.2(b)] (Section 1R06)

Inspection Report# : [2011002](#) (pdf)

**Significance:** G Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2011002-02, Improper Restoration of Air Conditioning Equipment Following Maintenance Results in Inoperability of 'B' Train of Recirculation Spray System**

Green. A self-revealing Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for Dominion's failure to properly restore 3HVQ\*ACUS2B, Containment Recirculation Pumps and Coolers Area B Air Conditioning Unit, following maintenance. This resulted in an additional 24 hours of inoperability of the 'B' train of the recirculation spray system (RSS). Dominion's entered the issue into their corrective action program.

The finding is more than minor because it was similar to NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4b in that not following written instructions in the tagging cover sheet caused the 'B' train of RSS to be inoperable for an additional 24 hours. The finding was associated with the Human 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 (Green) because the finding did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors determined that the performance deficiency had a cross-cutting aspect in the area of Human Performance, Work Practices, because operations personnel did not follow the instructions on the tagging cover sheet when returning the air conditioning unit to service. [H.4(b)] (Section 1R19)

Inspection Report# : [2011002](#) (pdf)

**Significance:** G Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (pdf)

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## Barrier Integrity

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# Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : March 02, 2012

# Millstone 3

## 1Q/2012 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**(NCV 05000423/2011003-01, Failure to Take Timely Corrective Actions for Dealloying of Aluminum Bronze Service Water Valves).**

• Green. The inspectors identified a Green NCV of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action in that Dominion did not take timely corrective action to address repetitive failures of aluminum-bronze (Al-Br) service water valves that were installed in safety related support systems from the process of de-alloying. Specifically, Dominion did not implement a plan to replace 3SWP\*V699 (3HVQ\*ACUS1B Bypass Valve), 3SWP\*V018 (3HVQ\*ACUS2B Unit Cooler Inlet Valve) and 3SWP\*V696 (3HVQ\*ACUS2B Unit Cooler Outlet Valve) prior to failure despite identifying in March 2009, that these valves would likely fail within 12 to 18 months. Dominion entered the issue into their corrective action system and replaced the three valves. The finding is similar to example 4.f in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that the failure to correct degraded conditions affected operability of the containment recirculation pumps. The finding is more than minor because it is 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 (Green) because the deficiency resulted in a loss of operability but did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that this finding had a cross-cutting aspect in Problem Identification and Resolution, CAP component, because Dominion did not take appropriate corrective action in a timely manner to address the degraded condition commensurate with their safety significance. [P.1(d)](Section 71111.15)

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

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### Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : May 29, 2012

# Millstone 3

## 2Q/2012 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2012003-01, Inadequate Operability Determination for 3FWS\*CTV41 Feedwater Isolation Valve Hydraulic Actuators.**

Green. An NRC identified finding (FIN) of very low safety significance (Green) was identified for Dominion's failure to adequately assess the operability of the Unit 3 Feedwater isolation valves, 3FWS\*CTV41A, B, C and D in accordance with OP-AA-102-1001, "Development of Technical Guidance Basis to Support Operability Determinations," and C OP 200.18, "Time Critical Operator Action Validation and Verification." Specifically, Dominion did not properly validate or credit manual operator actions to isolate the main feedwater lines during a feedline break inside containment as a compensatory measure for degraded hydraulic valve actuators. Dominion entered this issue into their corrective action program (CAP), and conducted a reanalysis of the operability determination.

The finding is more than minor because it is similar to NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," Example 3.k; in that the inadequate assessment of operability resulted in a condition where there was a reasonable doubt on the operability of the FWI function and the feedwater isolation valves. This issue is associated with the Equipment Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Dominion did not explicitly take credit for manual operator actions to trip the main feedwater pumps as a compensatory measure for the degraded capability of the 3FWS\*CTV41 feedwater isolation valves to perform their safety function during a feedline break event inside containment. The inspectors conducted a phase 1 screening in accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance.

The inspectors did not assign a cross cutting aspect to this finding because the finding was not reflective of current performance. Operability determination OD000237 was completed in 2009 and OP-AA-102-1001 does not require periodic reassessment of active operability determinations.

Inspection Report# : [2012003](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has



a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **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 : September 12, 2012

## Millstone 3

### 3Q/2012 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:** G Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Take Prompt and Effective Corrective Actions to Address TDAFW Pump Trip Latch Mechanism Degradation**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take prompt and effective corrective actions for conditions adverse to quality involving degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump trip latch mechanism. Dominion did not identify the cause of the trip latch mechanism degradation until after multiple surveillance test failures had occurred. In response to questions from NRC inspectors, Dominion performed additional troubleshooting and determined that the linkage was not properly lubricated, and the linkage impact gap was out of adjustment. Dominion lubricated and adjusted the linkage, and declared the TDAFW pump operable after a successful retest.

The inspectors determined that this issue was more than minor because it is similar to the more than minor example 4.f of Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding 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 (i.e., core damage). The finding was determined to be of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. The inspectors determined that this finding had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Dominion did not thoroughly evaluate the problem such that the resolution addressed the causes [P.1(c)].

Inspection Report# : [2012010](#) (*pdf*)

**Significance:** G Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

### **FIN 05000423/2012003-01, Inadequate Operability Determination for 3FWS\*CTV41 Feedwater Isolation Valve Hydraulic Actuators.**

Green. An NRC identified finding (FIN) of very low safety significance (Green) was identified for Dominion's failure to adequately assess the operability of the Unit 3 Feedwater isolation valves, 3FWS\*CTV41A, B, C and D in

accordance with OP-AA-102-1001, “Development of Technical Guidance Basis to Support Operability Determinations,” and C OP 200.18, “Time Critical Operator Action Validation and Verification.” Specifically, Dominion did not properly validate or credit manual operator actions to isolate the main feedwater lines during a feedline break inside containment as a compensatory measure for degraded hydraulic valve actuators. Dominion entered this issue into their corrective action program (CAP), and conducted a reanalysis of the operability determination.

The finding is more than minor because it is similar to NRC Inspection Manual Chapter (IMC) 0612, Appendix E, “Examples of Minor Issues,” Example 3.k; in that the inadequate assessment of operability resulted in a condition where there was a reasonable doubt on the operability of the FWI function and the feedwater isolation valves. This issue is associated with the Equipment Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Dominion did not explicitly take credit for manual operator actions to trip the main feedwater pumps as a compensatory measure for the degraded capability of the 3FWS\*CTV41 feedwater isolation valves to perform their safety function during a feedline break event inside containment. The inspectors conducted a phase 1 screening in accordance with IMC 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” and determined the finding was of very low safety significance.

The inspectors did not assign a cross cutting aspect to this finding because the finding was not reflective of current performance. Operability determination OD000237 was completed in 2009 and OP-AA-102-1001 does not require periodic reassessment of active operability determinations.

Inspection Report# : [2012003](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

## Barrier Integrity

**Significance:**  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012002-01, Inadequate Post Maintenance Test Directions following Design Change to 3HVC\*FN1B**

Green. The inspectors identified an NCV of 10 CFR 50 Appendix ‘B’ Criteria V "Instructions, Procedures, and

Drawings" of very low safety significance (Green) for Dominion's failure to adequately specify post maintenance test (PMT) requirements for the control room ventilation exhaust fan 1B (3HVC\*FN1B) following replacement of the breaker starter on June 19, 2012. Specifically, Dominion did not provide sufficient direction to the operations staff in the control room regarding the correct retest procedure or acceptance criteria to complete an adequate PMT. As a result, 3HVC\*FN1B was retested and returned to an operable status despite the inability of this fan to respond to a control building isolation (CBI) actuation signal. Subsequently, on June 21, 2012, train 'B' HVC was declared inoperable after the HVC system failed routine surveillance test SP 3614F.1 002, "Control Room Emergency Filtration System Operability Test." Dominion identified that the auxiliary contacts for the 42x relay had not been correctly installed in the breaker for 3HVC\*FN1B, which would have prevented the automatic starting of the fan during a CBI signal. The PMT acceptance criteria, specified in design change MP3 11-01065 and translated into work order 53102451547 had been met but were not adequate to retest the breaker.

Dominion entered this issue into their corrective action program (CAP) as condition report (CR) 492783. The finding is more than minor because it affected the design control attribute of the control room ventilation boundary barrier for the barrier integrity cornerstone. The performance deficiency was similar to example 5.b in Appendix E of Manual Chapter 0612, "Examples of Minor Issues." In accordance with IMC 0609, "Significant Determination Process," the inspectors performed a Phase 1 analysis and determined that the finding was of very low significance because the finding represented a degradation of the control room radiological barrier function but not degradation against smoke or toxic gas. This finding involved the cross-cutting area of human performance, the component of the resources, and the aspect of complete documentation because the failure to properly retest the breaker following the installation of a design change was caused by inadequate procedural direction and acceptance criteria. [H.2(c)] (Section 1R19)

Inspection Report# : [2012004](#) (*pdf*)

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Take Timely Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take timely corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion has deferred correcting this condition adverse to quality for over a period of six years (three refueling outages), and correction of the degraded condition is currently scheduled for the next refueling outage (April 2013).

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of NRC IMC 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding is more than minor because it is associated with the Design Control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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 the finding was of very low safety significance (Green) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. The inspectors determined this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Decision Making component, because Dominion did not use conservative assumptions in decision making when delaying the repairs [H.1(b)].

Inspection Report# : [2012010](#) (*pdf*)

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## Emergency Preparedness

## Occupational Radiation Safety

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## Public Radiation Safety

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## 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

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

### **Failure to Perform Effectiveness Reviews for Formal Self-Assessments**

Green. The inspectors identified a finding (FIN) of very low safety significance (Green) for Dominion's failure to perform procedurally required effectiveness reviews for numerous formal self-assessments. Consequently, Dominion missed opportunities to identify potential corrective actions for resolution in the corrective action program. Dominion has entered the issue into the corrective action program (CR482135).

The inspectors determined that this finding was more than minor because it is similar to IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," example 3.j; in that, it represents a programmatic deficiency that could lead to worse errors if uncorrected. This finding was of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. This finding is not associated with an NRC Reactor Oversight Process cornerstone. The inspectors determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Work Practices component, because Dominion personnel failed to follow procedures. [H.4(b)].

Inspection Report# : [2012010](#) (*pdf*)

**Significance:** N/A Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

**Millstone 2012 Biennial PI&R Inspection Summary**

The inspectors concluded that Dominion was generally effective in identifying, evaluating, and resolving problems. In most cases, Dominion personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. Dominion appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that Dominion typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified two violations of NRC requirements in the areas of Prioritization and Evaluation of Issues, and Effectiveness of Corrective Actions.

The inspectors concluded that Dominion adequately identified, reviewed, and applied relevant industry operating experience to Millstone Power Station operations. In addition, based on those items selected for review, the inspectors determined that in general, Dominion's self-assessments and audits were thorough. However, the inspectors identified one finding in the area of Self-Assessments and Audits that was determined not to be a violation of NRC requirements.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues, nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2012010](#) (*pdf*)

Last modified : November 30, 2012



## Millstone 3

### 4Q/2012 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:** G Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **NCV 05000423/2012010-02 Failure to Take Prompt and Effective Corrective Actions to Address TDAFW Pump Trip Latch Mechanism Degradation**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take prompt and effective corrective actions for conditions adverse to quality involving degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump trip latch mechanism. Dominion did not identify the cause of the trip latch mechanism degradation until after multiple surveillance test failures had occurred. In response to questions from NRC inspectors, Dominion performed additional troubleshooting and determined that the linkage was not properly lubricated, and the linkage impact gap was out of adjustment. Dominion lubricated and adjusted the linkage, and declared the TDAFW pump operable after a successful retest.

The inspectors determined that this issue was more than minor because it is similar to the more than minor example 4.f of Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding 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 (i.e., core damage). The finding was determined to be of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. The inspectors determined that this finding had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Dominion did not thoroughly evaluate the problem such that the resolution addressed the causes [P.1(c)].

Inspection Report# : [2012010 \(pdf\)](#)

**Significance:** G Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

### **FIN 05000423/2012003-01, Inadequate Operability Determination for 3FWS\*CTV41 Feedwater Isolation Valve Hydraulic Actuators.**

Green. An NRC identified finding (FIN) of very low safety significance (Green) was identified for Dominion's failure to adequately assess the operability of the Unit 3 Feedwater isolation valves, 3FWS\*CTV41A, B, C and D in accordance with OP-AA-102-1001, "Development of Technical Guidance Basis to Support Operability Determinations," and C OP 200.18, "Time Critical Operator Action Validation and Verification." Specifically, Dominion did not properly validate or credit manual operator actions to isolate the main feedwater lines during a feedline break inside containment as a compensatory measure for degraded hydraulic valve actuators. Dominion entered this issue into their corrective action program (CAP), and conducted a reanalysis of the operability

determination.

The finding is more than minor because it is similar to NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," Example 3.k; in that the inadequate assessment of operability resulted in a condition where there was a reasonable doubt on the operability of the FWI function and the feedwater isolation valves. This issue is associated with the Equipment Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Dominion did not explicitly take credit for manual operator actions to trip the main feedwater pumps as a compensatory measure for the degraded capability of the 3FWS\*CTV41 feedwater isolation valves to perform their safety function during a feedline break event inside containment. The inspectors conducted a phase 1 screening in accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance.

The inspectors did not assign a cross cutting aspect to this finding because the finding was not reflective of current performance. Operability determination OD000237 was completed in 2009 and OP-AA-102-1001 does not require periodic reassessment of active operability determinations.

Inspection Report# : [2012003](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

## Barrier Integrity

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012005-02, Failure to Establish Proper Test Controls for the Wide Range Logarithmic Post Accident Neutron Flux Monitors**

Green. The inspectors identified an NCV of 10 CFR 50, Appendix B, Criteria XI, Test Control, associated with the Barrier Integrity cornerstone. Specifically, Dominion did not ensure that the wide range logarithmic post accident neutron monitor system was properly calibrated as required by Technical Specification (TS) 3.3/4.3.6, "Accident Monitoring Instrumentation," to ensure all surveillance test acceptance criteria had been fully met on August 10, 2011. Dominion entered the issue into their corrective action system (CR442297) and repaired and realigned the Gamma Metrics LOG WR Monitor instrument drawer, and retrained the instrument and controls (I&C) department regarding surveillance and test control procedures.

This finding was determined to be more than minor because it is associated with the human performance attribute of the barrier integrity cornerstone 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. The finding was determined to be of very low significance (Green) because the issue only affected the fuel barrier. This finding

has a cross-cutting aspect in the area of human performance, work practices component because the licensee did not ensure that surveillance work activities were appropriately reviewed by supervision. [H.4(c)] (Section 4OA3)

Inspection Report# : [2012005](#) (pdf)

**Significance:**  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012002-01, Inadequate Post Maintenance Test Directions following Design Change to 3HVC\*FN1B**

Green. The inspectors identified an NCV of 10 CFR 50 Appendix 'B' Criteria V "Instructions, Procedures, and Drawings" of very low safety significance (Green) for Dominion's failure to adequately specify post maintenance test (PMT) requirements for the control room ventilation exhaust fan 1B (3HVC\*FN1B) following replacement of the breaker starter on June 19, 2012. Specifically, Dominion did not provide sufficient direction to the operations staff in the control room regarding the correct retest procedure or acceptance criteria to complete an adequate PMT. As a result, 3HVC\*FN1B was retested and returned to an operable status despite the inability of this fan to respond to a control building isolation (CBI) actuation signal. Subsequently, on June 21, 2012, train 'B' HVC was declared inoperable after the HVC system failed routine surveillance test SP 3614F.1 002, "Control Room Emergency Filtration System Operability Test." Dominion identified that the auxiliary contacts for the 42x relay had not been correctly installed in the breaker for 3HVC\*FN1B, which would have prevented the automatic starting of the fan during a CBI signal. The PMT acceptance criteria, specified in design change MP3 11-01065 and translated into work order 53102451547 had been met but were not adequate to retest the breaker.

Dominion entered this issue into their corrective action program (CAP) as condition report (CR) 492783. The finding is more than minor because it affected the design control attribute of the control room ventilation boundary barrier for the barrier integrity cornerstone. The performance deficiency was similar to example 5.b in Appendix E of Manual Chapter 0612, "Examples of Minor Issues." In accordance with IMC 0609, "Significant Determination Process," the inspectors performed a Phase 1 analysis and determined that the finding was of very low significance because the finding represented a degradation of the control room radiological barrier function but not degradation against smoke or toxic gas. This finding involved the cross-cutting area of human performance, the component of the resources, and the aspect of complete documentation because the failure to properly retest the breaker following the installation of a design change was caused by inadequate procedural direction and acceptance criteria. [H.2(c)] (Section 1R19)

Inspection Report# : [2012004](#) (pdf)

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012010-01 Failure to Take Timely Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take timely corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion has deferred correcting this condition adverse to quality for over a period of six years (three refueling outages), and correction of the degraded condition is currently scheduled for the next refueling outage (April 2013).

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of NRC IMC 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding is more than minor because it is associated with the Design Control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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 the finding was of very low safety significance (Green) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. The inspectors determined this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Decision Making component, because Dominion

did not use conservative assumptions in decision making when delaying the repairs [H.1(b)].

Inspection Report# : [2012010](#) (*pdf*)

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## Emergency Preparedness

**Significance:**  Oct 29, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2012005-01 and 05000423/2012005-01, Failure to Adequately Implement Flooding EALs**

Green. The inspectors identified an NCV associated with emergency preparedness (EP) planning standard 10 CFR 50.47(b)(4), and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain in effect the Millstone Units 2 and 3 emergency action level (EAL) schemes by failing to provide an effective measuring instrument for determining flooding water levels. These deficiencies adversely affected the ability of the licensee to properly classify events involving a major flood condition. Dominion entered the issue into their corrective action system (CR501482) and provided additional means to determine flood water levels.

The finding is more than minor because it is associated with the Facilities and Equipment attribute of the EP Cornerstone and affected the cornerstone objective to ensure 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 inspectors determined the finding to be of very low safety significance (Green) because an EAL has been rendered ineffective such that a Notification of Unusual Event (NOUE) would not be declared for a flooding event, but because of other EALs, an appropriate declaration could be made in a degraded manner. The finding has a cross-cutting aspect in the area of Human Performance, Resources, in that Dominion personnel did not take provide appropriate procedures to address a Risk-Significant Planning Standard (RSPS) issue completely, accurately, and in a timely manner commensurate with the safety significance because Dominion did not provide a means of reliably and accurately assessing flooding levels that could reach 19 feet above mean sea level. [H.2(d)] (Section 1R01)

Inspection Report# : [2012005](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

### **FIN 05000336&423/2012010-03 Failure to Perform Effectiveness Reviews for Formal Self-Assessments**

Green. The inspectors identified a finding (FIN) of very low safety significance (Green) for Dominion's failure to perform procedurally required effectiveness reviews for numerous formal self-assessments. Consequently, Dominion missed opportunities to identify potential corrective actions for resolution in the corrective action program. Dominion has entered the issue into the corrective action program (CR482135).

The inspectors determined that this finding was more than minor because it is similar to IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," example 3.j; in that, it represents a programmatic deficiency that could lead to worse errors if uncorrected. This finding was of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. This finding is not associated with an NRC Reactor Oversight Process cornerstone. The inspectors determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Work Practices component, because Dominion personnel failed to follow procedures. [H.4(b)].

Inspection Report# : [2012010](#) (*pdf*)

**Significance:** N/A Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

### **FIN 05000336&423/2012010-04 Millstone 2012 Biennial PI&R Inspection Summary**

The inspectors concluded that Dominion was generally effective in identifying, evaluating, and resolving problems. In most cases, Dominion personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. Dominion appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that Dominion typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified two violations of NRC requirements in the areas of Prioritization and Evaluation of Issues, and Effectiveness of Corrective Actions.

The inspectors concluded that Dominion adequately identified, reviewed, and applied relevant industry operating experience to Millstone Power Station operations. In addition, based on those items selected for review, the inspectors determined that in general, Dominion's self-assessments and audits were thorough. However, the inspectors identified one finding in the area of Self-Assessments and Audits that was determined not to be a violation of NRC requirements.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues, nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2012010](#) (*pdf*)

Last modified : February 28, 2013



## Millstone 3

### 1Q/2013 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:** G Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

#### **NCV 05000423/2012010-02 Failure to Take Prompt and Effective Corrective Actions to Address TDAFW Pump Trip Latch Mechanism Degradation**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take prompt and effective corrective actions for conditions adverse to quality involving degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump trip latch mechanism. Dominion did not identify the cause of the trip latch mechanism degradation until after multiple surveillance test failures had occurred. In response to questions from NRC inspectors, Dominion performed additional troubleshooting and determined that the linkage was not properly lubricated, and the linkage impact gap was out of adjustment. Dominion lubricated and adjusted the linkage, and declared the TDAFW pump operable after a successful retest.

The inspectors determined that this issue was more than minor because it is similar to the more than minor example 4.f of Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding 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 (i.e., core damage). The finding was determined to be of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. The inspectors determined that this finding had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Dominion did not thoroughly evaluate the problem such that the resolution addressed the causes [P.1(c)].

Inspection Report# : [2012010](#) (*pdf*)

**Significance:** G Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

#### **FIN 05000423/2012003-01, Inadequate Operability Determination for 3FWS\*CTV41 Feedwater Isolation Valve Hydraulic Actuators.**

Green. An NRC identified finding (FIN) of very low safety significance (Green) was identified for Dominion's failure to adequately assess the operability of the Unit 3 Feedwater isolation valves, 3FWS\*CTV41A, B, C and D in



accordance with OP-AA-102-1001, “Development of Technical Guidance Basis to Support Operability Determinations,” and C OP 200.18, “Time Critical Operator Action Validation and Verification.” Specifically, Dominion did not properly validate or credit manual operator actions to isolate the main feedwater lines during a feedline break inside containment as a compensatory measure for degraded hydraulic valve actuators. Dominion entered this issue into their corrective action program (CAP), and conducted a reanalysis of the operability determination.

The finding is more than minor because it is similar to NRC Inspection Manual Chapter (IMC) 0612, Appendix E, “Examples of Minor Issues,” Example 3.k; in that the inadequate assessment of operability resulted in a condition where there was a reasonable doubt on the operability of the FWI function and the feedwater isolation valves. This issue is associated with the Equipment Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Dominion did not explicitly take credit for manual operator actions to trip the main feedwater pumps as a compensatory measure for the degraded capability of the 3FWS\*CTV41 feedwater isolation valves to perform their safety function during a feedline break event inside containment. The inspectors conducted a phase 1 screening in accordance with IMC 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” and determined the finding was of very low safety significance.

The inspectors did not assign a cross cutting aspect to this finding because the finding was not reflective of current performance. Operability determination OD000237 was completed in 2009 and OP-AA-102-1001 does not require periodic reassessment of active operability determinations.

Inspection Report# : [2012003](#) (*pdf*)

**Significance:**  Sep 22, 2010

Identified By: Self-Revealing

Item Type: VIO Violation

**Failure to develop a mitigation strategy for depressurization of the Unit 3 steam generators and use a portable pump for injection make-up.**

This finding, affecting the Mitigating Systems Cornerstone, is related to developing a strategy to maintain core cooling and mitigate fuel damage, under the circumstances associated with loss of large areas of the plant due to explosions or fire; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution (Corrective Action Program). [P.1(c)]. See inspection report for more details.

Inspection Report# : [2010011](#) (*pdf*)

## Barrier Integrity

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012005-02, Failure to Establish Proper Test Controls for the Wide Range Logarithmic Post Accident Neutron Flux Monitors**

Green. The inspectors identified an NCV of 10 CFR 50, Appendix B, Criteria XI, Test Control, associated with the

Barrier Integrity cornerstone. Specifically, Dominion did not ensure that the wide range logarithmic post accident neutron monitor system was properly calibrated as required by Technical Specification (TS) 3.3/4.3.6, "Accident Monitoring Instrumentation," to ensure all surveillance test acceptance criteria had been fully met on August 10, 2011. Dominion entered the issue into their corrective action system (CR442297) and repaired and realigned the Gamma Metrics LOG WR Monitor instrument drawer, and retrained the instrument and controls (I&C) department regarding surveillance and test control procedures.

This finding was determined to be more than minor because it is associated with the human performance attribute of the barrier integrity cornerstone 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. The finding was determined to be of very low significance (Green) because the issue only affected the fuel barrier. This finding has a cross-cutting aspect in the area of human performance, work practices component because the licensee did not ensure that surveillance work activities were appropriately reviewed by supervision. [H.4(c)] (Section 40A3)

Inspection Report# : [2012005](#) (*pdf*)

**Significance:**  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012002-01, Inadequate Post Maintenance Test Directions following Design Change to 3HVC\*FN1B**

Green. The inspectors identified an NCV of 10 CFR 50 Appendix 'B' Criteria V "Instructions, Procedures, and Drawings" of very low safety significance (Green) for Dominion's failure to adequately specify post maintenance test (PMT) requirements for the control room ventilation exhaust fan 1B (3HVC\*FN1B) following replacement of the breaker starter on June 19, 2012. Specifically, Dominion did not provide sufficient direction to the operations staff in the control room regarding the correct retest procedure or acceptance criteria to complete an adequate PMT. As a result, 3HVC\*FN1B was retested and returned to an operable status despite the inability of this fan to respond to a control building isolation (CBI) actuation signal. Subsequently, on June 21, 2012, train 'B' HVC was declared inoperable after the HVC system failed routine surveillance test SP 3614F.1 002, "Control Room Emergency Filtration System Operability Test." Dominion identified that the auxiliary contacts for the 42x relay had not been correctly installed in the breaker for 3HVC\*FN1B, which would have prevented the automatic starting of the fan during a CBI signal. The PMT acceptance criteria, specified in design change MP3 11-01065 and translated into work order 53102451547 had been met but were not adequate to retest the breaker.

Dominion entered this issue into their corrective action program (CAP) as condition report (CR) 492783. The finding is more than minor because it affected the design control attribute of the control room ventilation boundary barrier for the barrier integrity cornerstone. The performance deficiency was similar to example 5.b in Appendix E of Manual Chapter 0612, "Examples of Minor Issues." In accordance with IMC 0609, "Significant Determination Process," the inspectors performed a Phase 1 analysis and determined that the finding was of very low significance because the finding represented a degradation of the control room radiological barrier function but not degradation against smoke or toxic gas. This finding involved the cross-cutting area of human performance, the component of the resources, and the aspect of complete documentation because the failure to properly retest the breaker following the installation of a design change was caused by inadequate procedural direction and acceptance criteria. [H.2(c)] (Section 1R19)

Inspection Report# : [2012004](#) (*pdf*)

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **NCV 05000423/2012010-01 Failure to Take Timely Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take timely corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion has deferred correcting this condition adverse to quality for over a period of six years (three refueling outages), and correction of the degraded condition is currently scheduled for the next refueling outage (April 2013).

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of NRC IMC 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding is more than minor because it is associated with the Design Control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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 the finding was of very low safety significance (Green) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. The inspectors determined this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Decision Making component, because Dominion did not use conservative assumptions in decision making when delaying the repairs [H.1(b)].

Inspection Report# : [2012010](#) (pdf)

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## **Emergency Preparedness**

**Significance:**  Oct 29, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **NCV 05000336/2012005-01 and 05000423/2012005-01, Failure to Adequately Implement Flooding EALs**

Green. The inspectors identified an NCV associated with emergency preparedness (EP) planning standard 10 CFR 50.47(b)(4), and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain in effect the Millstone Units 2 and 3 emergency action level (EAL) schemes by failing to provide an effective measuring instrument for determining flooding water levels. These deficiencies adversely affected the ability of the licensee to properly classify events involving a major flood condition. Dominion entered the issue into their corrective action system (CR501482) and provided additional means to determine flood water levels.

The finding is more than minor because it is associated with the Facilities and Equipment attribute of the EP Cornerstone and affected the cornerstone objective to ensure 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 inspectors determined the finding to be of very low safety significance (Green) because an EAL has been rendered ineffective such that a Notification of Unusual Event (NOUE) would not be declared for a flooding event, but because of other EALs, an appropriate declaration could be made in a degraded manner. The finding has a cross-cutting aspect in the area of Human Performance, Resources, in that Dominion personnel did not take provide appropriate procedures to address a Risk-Significant Planning Standard (RSPS) issue completely, accurately, and in a timely manner commensurate with the safety significance because Dominion did not provide a means of reliably and accurately assessing flooding levels that could reach 19 feet above mean sea level. [H.2(d)] (Section 1R01)

Inspection Report# : [2012005](#) (pdf)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

### **FIN 05000336&423/2012010-03 Failure to Perform Effectiveness Reviews for Formal Self-Assessments**

Green. The inspectors identified a finding (FIN) of very low safety significance (Green) for Dominion's failure to perform procedurally required effectiveness reviews for numerous formal self-assessments. Consequently, Dominion missed opportunities to identify potential corrective actions for resolution in the corrective action program. Dominion has entered the issue into the corrective action program (CR482135).

The inspectors determined that this finding was more than minor because it is similar to IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," example 3.j; in that, it represents a programmatic deficiency that could lead to worse errors if uncorrected. This finding was of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. This finding is not associated with an NRC Reactor Oversight Process cornerstone. The inspectors determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Work Practices component, because Dominion personnel failed to follow procedures. [H.4(b)].

Inspection Report# : [2012010](#) (*pdf*)

**Significance:** N/A Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

### **FIN 05000336&423/2012010-04 Millstone 2012 Biennial PI&R Inspection Summary**

The inspectors concluded that Dominion was generally effective in identifying, evaluating, and resolving problems. In most cases, Dominion personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. Dominion appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that Dominion typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified two violations of NRC requirements in the areas of Prioritization and Evaluation of Issues, and Effectiveness of Corrective Actions.

The inspectors concluded that Dominion adequately identified, reviewed, and applied relevant industry operating experience to Millstone Power Station operations. In addition, based on those items selected for review, the inspectors determined that in general, Dominion's self-assessments and audits were thorough. However, the inspectors identified one finding in the area of Self-Assessments and Audits that was determined not to be a violation of NRC requirements.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues, nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2012010](#) (*pdf*)

Last modified : June 04, 2013

## Millstone 3 2Q/2013 Plant Inspection Findings

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### Initiating Events

**Significance:** G Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-02, Failure to Establish Measures for the Identification and Control of Design Interfaces and for Coordinating among participating design organizations**

•Green. The inspectors noted a self-revealing Green NCV of 10 CFR 50, Criterion III, “Design Control,” when Dominion’s did not adequately implement established measures for the identification and control of design interfaces and for coordinating among participating design organizations. Specifically, Dominion failed to properly require a temporary modification for a work activity that met the design requirements of CM-AA-TCC-204, “Temporary Configuration Changes,” when workers installed an air line jumper that caused an AOV to open and led to an uncontrolled loss of RCS inventory. Dominion entered the issue into their CAP as CR511856.

The finding is more than minor because it is associated with the design control attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, Dominion failed to properly implement a temporary modification which ultimately led to the uncontrolled loss of RCS inventory. The finding was of very low safety significance (Green) because the charging system had sufficient capacity to maintain pressurizer level, the leakage would not have caused the loss of the running residual heat removal (RHR) pump for a substantial period of time, and at least one steam generator (SG) remained available. The finding had a cross-cutting aspect in Human Performance, Work Practices, because Dominion failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the station did not maintain control of activities in accordance with plant procedures [H.4(c)]. (Section 1R20)

Inspection Report# : [2013003](#) (*pdf*)

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### Mitigating Systems

**Significance:** G Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-01, Failure to Implement Annunciator Response Procedure for a Loss of Ventilation during a Battery Charge**

•Green. The inspectors identified a NCV of Technical Specification (TS) 6.8.1, “Procedures and Programs,” for failing to implement Annunciator Response Procedure (ARP) OP 3353VP1B1-4 (BATT ROOM 1, 3, 5, EXHAUST FAN FLOW LOW) and stop the equalizing battery charge that was occurring on three batteries to prevent the buildup of hydrogen gas in the Unit 3 east switchgear room when room ventilation was stopped. After a period of two hours, Dominion stopped the equalizing charge and entered the issue into their CAP as CR511856 and CR519744.



The performance deficiency is more than minor because it affected the protection against external factors attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events, such as fire, to prevent undesirable consequences (i.e. core damage). Specifically, Dominion failed to properly implement the ARP which allowed the potential build-up of hydrogen gas to occur in the east switchgear room. A hydrogen fire in the east switchgear room would have disabled numerous safety-related systems and potentially injured personnel during a time when the plant was in a yellow shutdown risk state based on RCS decay heat removal and power availability. The inspectors determined this finding to be of very low safety significance (Green) because train 'B' was protected and RHR loop 'B' was in operation providing core cooling. Train 'B' components and systems were physically isolated in the west switchgear room. The finding has a cross-cutting aspect in the area of Human Performance, Work Practices, because Dominion did not effectively communicate expectations regarding personnel following procedures [H.4(b)]. (Section 1R13)

Inspection Report# : [2013003](#) (*pdf*)

**Significance:** G Feb 15, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013007-01, Failure to Verify 480VAC MCC Starters Had Adequate Control Voltage to Operate Under All Design Conditions**

Green. The team identified a finding of very low safety significance involving a non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, "Design Control," in that Dominion did not verify that Unit 3 safety-related motor control center (MCC) starters had adequate control voltage to operate under all design conditions. Specifically, Dominion did not use the minimum voltage that would be available at Unit 3 MCCs during the most limiting block starting of large electrical loads during a Unit 3 loss of coolant accident (LOCA) as the design input for the minimum voltage under which an MCC starter was required to operate, to ensure that the starter's contactor would close when Unit 2 off-site power is cross-tied to Unit 3. In response, Dominion entered the issue into their corrective action program and issued an Operations Standing Order to ensure that the off-site electrical distribution system would not be placed in a configuration that would allow a lower minimum voltage than what was previously analyzed for the MCC starters until the issue was resolved. The finding was more than minor because it was similar to Example 3.j of NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," because without verification that the components would operate at the lowest potential voltage possible, the team had reasonable doubt with the operability of the associated components. In addition, the finding was associated with the Design Control attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," a Region I Senior Reactor Analyst (SRA) conducted a detailed risk evaluation. Since the ability of the MCC starters to function under the worst case conditions could not be verified during the inspection period, a detailed risk evaluation was determined to be appropriate. Results of the evaluation demonstrated that the initiating event frequency was substantially below 1E-6, and therefore, the SRA concluded the finding to be of very low safety significance (Green).

This finding had a cross-cutting aspect in the area of Human Performance, Decision Making, because, in the design of a Unit 3 480 volts alternating current (VAC) MCC

starter modification, Dominion did not use a conservative or bounding value as a design input for the minimum voltage under which a component might be required to operate.

[IMC 0310, Aspect H.1(b)] (1R17.2.1)

Inspection Report# : [2013007](#) (*pdf*)

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012010-02 Failure to Take Prompt and Effective Corrective Actions to Address TDAFW Pump Trip Latch Mechanism Degradation**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, “Corrective Action,” for Dominion’s failure to take prompt and effective corrective actions for conditions adverse to quality involving degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump trip latch mechanism. Dominion did not identify the cause of the trip latch mechanism degradation until after multiple surveillance test failures had occurred. In response to questions from NRC inspectors, Dominion performed additional troubleshooting and determined that the linkage was not properly lubricated, and the linkage impact gap was out of adjustment. Dominion lubricated and adjusted the linkage, and declared the TDAFW pump operable after a successful retest.

The inspectors determined that this issue was more than minor because it is similar to the more than minor example 4.f of Inspection Manual Chapter (IMC) 0612, Appendix E, “Examples of Minor Issues.” Additionally, the finding 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 (i.e., core damage). The finding was determined to be of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. The inspectors determined that this finding had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Dominion did not thoroughly evaluate the problem such that the resolution addressed the causes [P.1(c)].

Inspection Report# : [2012010](#) (*pdf*)

## Barrier Integrity

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012005-02, Failure to Establish Proper Test Controls for the Wide Range Logarithmic Post Accident Neutron Flux Monitors**

Green. The inspectors identified an NCV of 10 CFR 50, Appendix B, Criteria XI, Test Control, associated with the Barrier Integrity cornerstone. Specifically, Dominion did not ensure that the wide range logarithmic post accident neutron monitor system was properly calibrated as required by Technical Specification (TS) 3.3/4.3.6, “Accident Monitoring Instrumentation,” to ensure all surveillance test acceptance criteria had been fully met on August 10, 2011. Dominion entered the issue into their corrective action system (CR442297) and repaired and realigned the

Gamma Metrics LOG WR Monitor instrument drawer, and retrained the instrument and controls (I&C) department regarding surveillance and test control procedures.

This finding was determined to be more than minor because it is associated with the human performance attribute of the barrier integrity cornerstone 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. The finding was determined to be of very low significance (Green) because the issue only affected the fuel barrier. This finding has a cross-cutting aspect in the area of human performance, work practices component because the licensee did not ensure that surveillance work activities were appropriately reviewed by supervision. [H.4(c)] (Section 40A3)

Inspection Report# : [2012005](#) (*pdf*)

**Significance:**  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012002-01, Inadequate Post Maintenance Test Directions following Design Change to 3HVC\*FN1B**

Green. The inspectors identified an NCV of 10 CFR 50 Appendix 'B' Criteria V "Instructions, Procedures, and Drawings" of very low safety significance (Green) for Dominion's failure to adequately specify post maintenance test (PMT) requirements for the control room ventilation exhaust fan 1B (3HVC\*FN1B) following replacement of the breaker starter on June 19, 2012. Specifically, Dominion did not provide sufficient direction to the operations staff in the control room regarding the correct retest procedure or acceptance criteria to complete an adequate PMT. As a result, 3HVC\*FN1B was retested and returned to an operable status despite the inability of this fan to respond to a control building isolation (CBI) actuation signal. Subsequently, on June 21, 2012, train 'B' HVC was declared inoperable after the HVC system failed routine surveillance test SP 3614F.1 002, "Control Room Emergency Filtration System Operability Test." Dominion identified that the auxiliary contacts for the 42x relay had not been correctly installed in the breaker for 3HVC\*FN1B, which would have prevented the automatic starting of the fan during a CBI signal. The PMT acceptance criteria, specified in design change MP3 11-01065 and translated into work order 53102451547 had been met but were not adequate to retest the breaker.

Dominion entered this issue into their corrective action program (CAP) as condition report (CR) 492783. The finding is more than minor because it affected the design control attribute of the control room ventilation boundary barrier for the barrier integrity cornerstone. The performance deficiency was similar to example 5.b in Appendix E of Manual Chapter 0612, "Examples of Minor Issues." In accordance with IMC 0609, "Significant Determination Process," the inspectors performed a Phase 1 analysis and determined that the finding was of very low significance because the finding represented a degradation of the control room radiological barrier function but not degradation against smoke or toxic gas. This finding involved the cross-cutting area of human performance, the component of the resources, and the aspect of complete documentation because the failure to properly retest the breaker following the installation of a design change was caused by inadequate procedural direction and acceptance criteria. [H.2(c)] (Section 1R19)

Inspection Report# : [2012004](#) (*pdf*)

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2012010-01 Failure to Take Timely Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Action," for Dominion's failure to take timely corrective actions for conditions adverse to quality involving the degradation of the

closing capability of four Unit 3 main feedwater isolation valves. Dominion has deferred correcting this condition adverse to quality for over a period of six years (three refueling outages), and correction of the degraded condition is currently scheduled for the next refueling outage (April 2013).

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of NRC IMC 0612, Appendix E, "Examples of Minor Issues." Additionally, the finding is more than minor because it is associated with the Design Control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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 the finding was of very low safety significance (Green) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. The inspectors determined this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Decision Making component, because Dominion did not use conservative assumptions in decision making when delaying the repairs [H.1(b)].

Inspection Report# : [2012010](#) (*pdf*)

## Emergency Preparedness

**Significance:**  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-03, Failure to make a 10 CFR 50.72(b)(3)(v) report for a major loss of emergency assessment capability for the stack radiation monitor**

•Severity Level IV. The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(xiii) for the failure to make the required initial notification to the NRC within eight hours of a major loss of monitoring capability. On April 16, Dominion declared the main station stack radiation monitor inoperable but did not report this to the NRC until the inspectors questioned the control room operators on April 18. Dominion evaluated the condition and made the required notification (NRC event report number 48941) on April 18, 2013, and entered the issue into their corrective action program (CAP) as CR512007.

The inspectors determined that Dominion did not notify the NRC of a major loss of emergency assessment capabilities event in the time required by 10 CFR 50.72. The inspectors determined the finding was subject to traditional enforcement because Dominion's failure to make a required report could potentially impact the NRC's regulatory function. This finding is similar to the one described in NRC Enforcement Policy, Section 6.9.d(9), "A licensee fails to make a report required by 10 CFR 50.72 or 10 CFR 50.73," which corresponds to Severity Level IV. In accordance with guidance contained in IMC 0612, "Power Reactor Inspection Reports", Section 07.03, cross-cutting aspects are not assigned to traditional enforcement violations. (Section 4OA3)

Inspection Report# : [2013003](#) (*pdf*)

**Significance:**  Oct 29, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2012005-01 and 05000423/2012005-01, Failure to Adequately Implement Flooding EALs**

Green. The inspectors identified an NCV associated with emergency preparedness (EP) planning standard 10 CFR 50.47(b)(4), and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically,

Dominion did not maintain in effect the Millstone Units 2 and 3 emergency action level (EAL) schemes by failing to provide an effective measuring instrument for determining flooding water levels. These deficiencies adversely affected the ability of the licensee to properly classify events involving a major flood condition. Dominion entered the issue into their corrective action system (CR501482) and provided additional means to determine flood water levels.

The finding is more than minor because it is associated with the Facilities and Equipment attribute of the EP Cornerstone and affected the cornerstone objective to ensure 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 inspectors determined the finding to be of very low safety significance (Green) because an EAL has been rendered ineffective such that a Notification of Unusual Event (NOUE) would not be declared for a flooding event, but because of other EALs, an appropriate declaration could be made in a degraded manner. The finding has a cross-cutting aspect in the area of Human Performance, Resources, in that Dominion personnel did not take provide appropriate procedures to address a Risk-Significant Planning Standard (RSPS) issue completely, accurately, and in a timely manner commensurate with the safety significance because Dominion did not provide a means of reliably and accurately assessing flooding levels that could reach 19 feet above mean sea level. [H.2(d)] (Section 1R01)

Inspection Report# : [2012005](#) (*pdf*)

**Significance:**  Aug 21, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2012503-001 and 05000423/2012503-001, Failure to Adequately Implement Fuel Clad Barrier EALs**

The NRC identified a non-cited violation (NCV) associated with emergency preparedness planning standard 10 CFR 50.47(b)(4), and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain in effect the Millstone Units 2 and 3 emergency action level (EAL) schemes by not providing operations procedures for obtaining reactor coolant samples once a safety injection signal has occurred. These deficiencies adversely affected the ability of the licensee to properly classify events involving the loss of the fuel clad fission product barrier.

The inspection team determined that the failure by Dominion to provide the proper operating procedures for operators to adequately implement their respective unit's EALs was a performance deficiency that was reasonably within their ability to foresee and prevent. The finding is more than minor because it is associated with the emergency response organization (ERO) attribute of the Emergency Preparedness Cornerstone and affected the cornerstone objective to ensure 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 inspectors evaluated this finding using the Emergency Preparedness Significance Determination Process. The inspector determined that this finding involved an example where an EAL has been rendered ineffective such that any Site Area Emergency would not be declared for a particular off-normal event, but because of other EALs, an appropriate declaration could be made in a degraded manner. The finding is related to the cross-cutting area of Problem Identification and Resolution, Corrective Action Program, in that Dominion personnel did not take appropriate corrective actions to address a Risk Significant Planning Standard (RSPS) issue completely, accurately, and in a timely manner commensurate with the safety significance [P.1(d)]. Specifically, Dominion did not place this issue into the corrective action program and take appropriate action until prompted by the NRC team's findings.

Inspection Report# : [2012503](#) (*pdf*)



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## Public Radiation Safety

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### 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

**Significance:**  Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

**FIN 05000336&423/2012010-03 Failure to Perform Effectiveness Reviews for Formal Self-Assessments**

Green. The inspectors identified a finding (FIN) of very low safety significance (Green) for Dominion's failure to perform procedurally required effectiveness reviews for numerous formal self-assessments. Consequently, Dominion missed opportunities to identify potential corrective actions for resolution in the corrective action program. Dominion has entered the issue into the corrective action program (CR482135).

The inspectors determined that this finding was more than minor because it is similar to IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," example 3.j; in that, it represents a programmatic deficiency that could lead to worse errors if uncorrected. This finding was of very low safety significance (Green) because the finding does not represent a loss of system and/or function, does not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems out-of-service for greater than its technical specification allowed outage time, and does 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 hrs. This finding is not associated with an NRC Reactor Oversight Process cornerstone. The inspectors determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Work Practices component, because Dominion personnel failed to follow procedures. [H.4(b)].

Inspection Report# : [2012010](#) (*pdf*)

**Significance:** N/A Aug 03, 2012

Identified By: NRC

Item Type: FIN Finding

**FIN 05000336&423/2012010-04 Millstone 2012 Biennial PI&R Inspection Summary**

The inspectors concluded that Dominion was generally effective in identifying, evaluating, and resolving problems. In most cases, Dominion personnel identified problems, entered them into the corrective action program at a low



threshold, and prioritized issues commensurate with their safety significance. Dominion appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that Dominion typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified two violations of NRC requirements in the areas of Prioritization and Evaluation of Issues, and Effectiveness of Corrective Actions.

The inspectors concluded that Dominion adequately identified, reviewed, and applied relevant industry operating experience to Millstone Power Station operations. In addition, based on those items selected for review, the inspectors determined that in general, Dominion's self-assessments and audits were thorough. However, the inspectors identified one finding in the area of Self-Assessments and Audits that was determined not to be a violation of NRC requirements.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues, nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2012010](#) (*pdf*)

Last modified : September 03, 2013

## Millstone 3

### 3Q/2013 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-02, Failure to Establish Measures for the Identification and Control of Design Interfaces and for Coordinating among participating design organizations**

•Green. The inspectors noted a self-revealing Green NCV of 10 CFR 50, Criterion III, “Design Control,” when Dominion’s did not adequately implement established measures for the identification and control of design interfaces and for coordinating among participating design organizations. Specifically, Dominion failed to properly require a temporary modification for a work activity that met the design requirements of CM-AA-TCC-204, “Temporary Configuration Changes,” when workers installed an air line jumper that caused an AOV to open and led to an uncontrolled loss of RCS inventory. Dominion entered the issue into their CAP as CR511856.

The finding is more than minor because it is associated with the design control attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, Dominion failed to properly implement a temporary modification which ultimately led to the uncontrolled loss of RCS inventory. The finding was of very low safety significance (Green) because the charging system had sufficient capacity to maintain pressurizer level, the leakage would not have caused the loss of the running residual heat removal (RHR) pump for a substantial period of time, and at least one steam generator (SG) remained available. The finding had a cross-cutting aspect in Human Performance, Work Practices, because Dominion failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the station did not maintain control of activities in accordance with plant procedures [H.4(c)]. (Section 1R20)

Inspection Report# : [2013003](#) (*pdf*)

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#### Mitigating Systems

**Significance:**  Aug 08, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336, 423/2013010-03, Failure to Maintain Cold Shutdown Material On-Site**

•Green. The team identified a finding of very low safety significance, involving a non-cited violation of Millstone Unit 2 Operating License Condition 2.C. (3) and Unit 3 Operating License Condition 2.H for the failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, Dominion used large motors, pre-staged in the on-site warehouse for Appendix R cold shutdown (CSD) repairs, as spare parts to accomplish preventative maintenance tasks. As a result, Dominion could not have performed the designated CSD repairs and achieved CSD conditions within 72 hours as required for both Units 2 and 3 during the time period that the old motors were off-site for refurbishment. In addition, Dominion had not taken any compensatory measures to reduce the

likelihood of a fire or its consequence, in lieu of not having required repair material on-site. Dominion entered these issues into its corrective action program as condition reports 522722, 522740, 522848, and 522850 and has planned corrective actions to ensure CSD repair material is never intentionally made unavailable or removed from the site.

This finding was more than minor because it was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter 0609, Appendix F, and "Fire Protection Significance Determination Process." This finding screened to very low safety significance in Phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. This finding did not have a cross-cutting aspect because it was a legacy issue and was considered to not be indicative of current licensee performance. (Section 1R05.05.9)

Inspection Report# : [2013010](#) (*pdf*)

**Significance:**  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-01, Failure to Implement Annunciator Response Procedure for a Loss of Ventilation during a Battery Charge**

•Green. The inspectors identified a NCV of Technical Specification (TS) 6.8.1, "Procedures and Programs," for failing to implement Annunciator Response Procedure (ARP) OP 3353VP1B1-4 (BATT ROOM 1, 3, 5, EXHAUST FAN FLOW LOW) and stop the equalizing battery charge that was occurring on three batteries to prevent the buildup of hydrogen gas in the Unit 3 east switchgear room when room ventilation was stopped. After a period of two hours, Dominion stopped the equalizing charge and entered the issue into their CAP as CR511856 and CR519744.

The performance deficiency is more than minor because it affected the protection against external factors attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events, such as fire, to prevent undesirable consequences (i.e. core damage). Specifically, Dominion failed to properly implement the ARP which allowed the potential build-up of hydrogen gas to occur in the east switchgear room. A hydrogen fire in the east switchgear room would have disabled numerous safety-related systems and potentially injured personnel during a time when the plant was in a yellow shutdown risk state based on RCS decay heat removal and power availability. The inspectors determined this finding to be of very low safety significance (Green) because train 'B' was protected and RHR loop 'B' was in operation providing core cooling. Train 'B' components and systems were physically isolated in the west switchgear room. The finding has a cross-cutting aspect in the area of Human Performance, Work Practices, because Dominion did not effectively communicate expectations regarding personnel following procedures [H.4(b)]. (Section 1R13)

Inspection Report# : [2013003](#) (*pdf*)

**Significance:**  Feb 15, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013007-01, Failure to Verify 480VAC MCC Starters Had Adequate Control Voltage to Operate Under All Design Conditions**

Green. The team identified a finding of very low safety significance involving a non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, "Design Control," in that Dominion did not verify that Unit 3 safety-related motor control center (MCC) starters had adequate control voltage to

operate under all design conditions. Specifically, Dominion did not use the minimum voltage that would be available at Unit 3 MCCs during the most limiting block starting of large electrical loads during a Unit 3 loss of coolant accident (LOCA) as the design input for the minimum voltage under which an MCC starter was required to operate, to ensure that the starter's contactor would close when Unit 2 off-site power is cross-tied to Unit 3. In response, Dominion entered the issue into their corrective action program and issued an Operations Standing Order to ensure that the off-site electrical distribution system would not be placed in a configuration that would allow a lower minimum voltage than what was previously analyzed for the MCC starters until the issue was resolved. The finding was more than minor because it was similar to Example 3.j of NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," because without verification that the components would operate at the lowest potential voltage possible, the team had reasonable doubt with the operability of the associated components. In addition, the finding was associated with the Design Control attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," a Region I Senior Reactor Analyst (SRA) conducted a detailed risk evaluation. Since the ability of the MCC starters to function under the worst case conditions could not be verified during the inspection period, a detailed risk evaluation was determined to be appropriate. Results of the evaluation demonstrated that the initiating event frequency was substantially below 1E-6, and therefore, the SRA concluded the finding to be of very low safety significance (Green).

This finding had a cross-cutting aspect in the area of Human Performance, Decision Making, because, in the design of a Unit 3 480 volts alternating current (VAC) MCC starter modification, Dominion did not use a conservative or bounding value as a design input for the minimum voltage under which a component might be required to operate.

[IMC 0310, Aspect H.1(b)] (1R17.2.1)

Inspection Report# : [2013007](#) (*pdf*)

## Barrier Integrity

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **NCV 05000423/2012005-02, Failure to Establish Proper Test Controls for the Wide Range Logarithmic Post Accident Neutron Flux Monitors**

Green. The inspectors identified an NCV of 10 CFR 50, Appendix B, Criteria XI, Test Control, associated with the Barrier Integrity cornerstone. Specifically, Dominion did not ensure that the wide range logarithmic post accident neutron monitor system was properly calibrated as required by Technical Specification (TS) 3.3/4.3.6, "Accident Monitoring Instrumentation," to ensure all surveillance test acceptance criteria had been fully met on August 10, 2011. Dominion entered the issue into their corrective action system (CR442297) and repaired and realigned the Gamma Metrics LOG WR Monitor instrument drawer, and retrained the instrument and controls (I&C) department regarding surveillance and test control procedures.

This finding was determined to be more than minor because it is associated with the human performance attribute of the barrier integrity cornerstone 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. The finding was determined to be of very low significance (Green) because the issue only affected the fuel barrier. This finding has a cross-cutting aspect in the area of human performance, work practices component because the licensee did not ensure that surveillance work activities were appropriately reviewed by supervision. [H.4(c)] (Section 40A3)

Inspection Report# : [2012005](#) (*pdf*)

## Emergency Preparedness

**Significance:**  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-03, Failure to make a 10 CFR 50.72(b)(3)(v) report for a major loss of emergency assessment capability for the stack radiation monitor**

•Severity Level IV. The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(xiii) for the failure to make the required initial notification to the NRC within eight hours of a major loss of monitoring capability. On April 16, Dominion declared the main station stack radiation monitor inoperable but did not report this to the NRC until the inspectors questioned the control room operators on April 18. Dominion evaluated the condition and made the required notification (NRC event report number 48941) on April 18, 2013, and entered the issue into their corrective action program (CAP) as CR512007.

The inspectors determined that Dominion did not notify the NRC of a major loss of emergency assessment capabilities event in the time required by 10 CFR 50.72. The inspectors determined the finding was subject to traditional enforcement because Dominion's failure to make a required report could potentially impact the NRC's regulatory function. This finding is similar to the one described in NRC Enforcement Policy, Section 6.9.d(9), "A licensee fails to make a report required by 10 CFR 50.72 or 10 CFR 50.73," which corresponds to Severity Level IV. In accordance with guidance contained in IMC 0612, "Power Reactor Inspection Reports", Section 07.03, cross-cutting aspects are not assigned to traditional enforcement violations. (Section 40A3)

Inspection Report# : [2013003](#) (*pdf*)

**Significance:**  Oct 29, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336/2012005-01 and 05000423/2012005-01, Failure to Adequately Implement Flooding EALs**

Green. The inspectors identified an NCV associated with emergency preparedness (EP) planning standard 10 CFR 50.47(b)(4), and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain in effect the Millstone Units 2 and 3 emergency action level (EAL) schemes by failing to provide an effective measuring instrument for determining flooding water levels. These deficiencies adversely affected the ability of the licensee to properly classify events involving a major flood condition. Dominion entered the issue into their corrective action system (CR501482) and provided additional means to determine flood water levels.

The finding is more than minor because it is associated with the Facilities and Equipment attribute of the EP Cornerstone and affected the cornerstone objective to ensure 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 inspectors determined the finding to be of very low safety significance (Green) because an EAL has been rendered ineffective such that a Notification of Unusual Event (NOUE) would not be declared for a flooding event, but because of other EALs, an appropriate declaration could be made in a degraded manner. The finding has a cross-cutting aspect in the area of Human Performance, Resources, in that Dominion personnel did not take provide appropriate procedures to address a Risk-Significant Planning Standard (RSPS) issue completely, accurately, and in a timely manner commensurate with the safety significance because Dominion did not provide a means of reliably and accurately assessing flooding levels that could reach 19 feet above mean sea level. [H.2(d)] (Section 1R01)

Inspection Report# : [2012005](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 03, 2013



## Millstone 3 4Q/2013 Plant Inspection Findings

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### Initiating Events

**Significance:** G Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-02, Failure to Establish Measures for the Identification and Control of Design Interfaces and for Coordinating among participating design organizations**

•Green. The inspectors noted a self-revealing Green NCV of 10 CFR 50, Criterion III, “Design Control,” when Dominion’s did not adequately implement established measures for the identification and control of design interfaces and for coordinating among participating design organizations. Specifically, Dominion failed to properly require a temporary modification for a work activity that met the design requirements of CM-AA-TCC-204, “Temporary Configuration Changes,” when workers installed an air line jumper that caused an AOV to open and led to an uncontrolled loss of RCS inventory. Dominion entered the issue into their CAP as CR511856.

The finding is more than minor because it is associated with the design control attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, Dominion failed to properly implement a temporary modification which ultimately led to the uncontrolled loss of RCS inventory. The finding was of very low safety significance (Green) because the charging system had sufficient capacity to maintain pressurizer level, the leakage would not have caused the loss of the running residual heat removal (RHR) pump for a substantial period of time, and at least one steam generator (SG) remained available. The finding had a cross-cutting aspect in Human Performance, Work Practices, because Dominion failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the station did not maintain control of activities in accordance with plant procedures [H.4(c)]. (Section 1R20)

Inspection Report# : [2013003](#) (*pdf*)

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### Mitigating Systems

**Significance:** G Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013005-01), Inadequate Operability Determination for the TDAFW Pump following an Overspeed Trip**

Green. The inspectors identified a Green Finding (FIN) for the failure to follow Dominion Procedure OP-AA-102, “Operability Determinations,” and establish adequate compensatory measures to restore reliability to the Unit 3 Turbine Driven Auxiliary Feedwater (TDAFW) Pump following overspeed trips on November 4 and December 18, 2013. The inspectors determined that the performance deficiency was within Dominion’s ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) (CR531536, CR532536 and CR535411), established additional compensatory measures to address degraded pump reliability, and scheduled

additional maintenance activities to more thoroughly investigate the cause of the overspeed trips.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately establish effective compensatory measures resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. The inspectors determined that, after further compensatory measures were established, the TDAFW pump maintained its operability, the AFW system maintained all safety functions, and the finding was of very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, in that Dominion did not use conservative assumptions in decision making and did not 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 (H.1.b). (Section 1R15)

Inspection Report# : [2013005](#) (*pdf*)

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013004-02, Inadequate Operability Determination for the Turbine Drive Auxiliary Feedwater (TDAFW) Pump**

Green. The inspectors identified a finding (FIN) for Dominion's failure to complete an adequate and timely operability determination as required by OP-AA-102, "Operability Determination," to assess governor control oscillations following completion of maintenance on the turbine driven auxiliary feedwater (TDAFW) pump 3FWA\*P2 on May 17, 2013. The inspectors determined that the failure to adequately evaluate pump operability was a performance deficiency that was within Dominion's ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) as CR528526 and repaired the TDAFW pump governor on August 12, 2013, prior to return to power following the reactor shutdown on August 9, 2013.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately assess operability resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. In addition, the performance deficiency is similar to examples 1.a and 2.a of IMC 0612, Appendix E, "Examples of Minor Issues." The inspectors determined that the finding was of very low safety significance (Green) because the performance deficiency did not represent a loss of system safety function or a loss of safety function of a single train for greater than its Technical Specification allowed outage time. This finding has a cross-cutting aspect in the area of Human Performance, in that Dominion uses conservative assumptions in decision making and adopts 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 (H.1(b)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

**Significance:**  Aug 08, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336, 423/2013010-03, Failure to Maintain Cold Shutdown Material On-Site**

•Green. The team identified a finding of very low safety significance, involving a non-cited violation of Millstone Unit 2 Operating License Condition 2.C. (3) and Unit 3 Operating License Condition 2.H for the failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, Dominion used large motors, pre-staged in the on-site warehouse for Appendix R cold shutdown (CSD) repairs, as spare parts to accomplish preventative maintenance tasks. As a result, Dominion could not have performed the designated CSD repairs and

achieved CSD conditions within 72 hours as required for both Units 2 and 3 during the time period that the old motors were off-site for refurbishment. In addition, Dominion had not taken any compensatory measures to reduce the likelihood of a fire or its consequence, in lieu of not having required repair material on-site. Dominion entered these issues into its corrective action program as condition reports 522722, 522740, 522848, and 522850 and has planned corrective actions to ensure CSD repair material is never intentionally made unavailable or removed from the site.

This finding was more than minor because it was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter 0609, Appendix F, and "Fire Protection Significance Determination Process." This finding screened to very low safety significance in Phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. This finding did not have a cross-cutting aspect because it was a legacy issue and was considered to not be indicative of current licensee performance. (Section 1R05.05.9)

Inspection Report# : [2013010](#) (*pdf*)

**Significance:**  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-01, Failure to Implement Annunciator Response Procedure for a Loss of Ventilation during a Battery Charge**

•Green. The inspectors identified a NCV of Technical Specification (TS) 6.8.1, "Procedures and Programs," for failing to implement Annunciator Response Procedure (ARP) OP 3353VP1B1-4 (BATT ROOM 1, 3, 5, EXHAUST FAN FLOW LOW) and stop the equalizing battery charge that was occurring on three batteries to prevent the buildup of hydrogen gas in the Unit 3 east switchgear room when room ventilation was stopped. After a period of two hours, Dominion stopped the equalizing charge and entered the issue into their CAP as CR511856 and CR519744.

The performance deficiency is more than minor because it affected the protection against external factors attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events, such as fire, to prevent undesirable consequences (i.e. core damage). Specifically, Dominion failed to properly implement the ARP which allowed the potential build-up of hydrogen gas to occur in the east switchgear room. A hydrogen fire in the east switchgear room would have disabled numerous safety-related systems and potentially injured personnel during a time when the plant was in a yellow shutdown risk state based on RCS decay heat removal and power availability. The inspectors determined this finding to be of very low safety significance (Green) because train 'B' was protected and RHR loop 'B' was in operation providing core cooling. Train 'B' components and systems were physically isolated in the west switchgear room. The finding has a cross-cutting aspect in the area of Human Performance, Work Practices, because Dominion did not effectively communicate expectations regarding personnel following procedures [H.4(b)]. (Section 1R13)

Inspection Report# : [2013003](#) (*pdf*)

**Significance:**  Feb 15, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013007-01, Failure to Verify 480VAC MCC Starters Had Adequate Control Voltage to Operate Under All Design Conditions**

Green. The team identified a finding of very low safety significance involving a non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50,

Appendix B, Criterion III, "Design Control," in that Dominion did not verify that Unit 3 safety-related motor control center (MCC) starters had adequate control voltage to operate under all design conditions. Specifically, Dominion did not use the minimum voltage that would be available at Unit 3 MCCs during the most limiting block starting of large electrical loads during a Unit 3 loss of coolant accident (LOCA) as the design input for the minimum voltage under which an MCC starter was required to operate, to ensure that the starter's contactor would close when Unit 2 off-site power is cross-tied to Unit 3. In response, Dominion entered the issue into their corrective action program and issued an Operations Standing Order to ensure that the off-site electrical distribution system would not be placed in a configuration that would allow a lower minimum voltage than what was previously analyzed for the MCC starters until the issue was resolved. The finding was more than minor because it was similar to Example 3.j of NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," because without verification that the components would operate at the lowest potential voltage possible, the team had reasonable doubt with the operability of the associated components. In addition, the finding was associated with the Design Control attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," a Region I Senior Reactor Analyst (SRA) conducted a detailed risk evaluation. Since the ability of the MCC starters to function under the worst case conditions could not be verified during the inspection period, a detailed risk evaluation was determined to be appropriate. Results of the evaluation demonstrated that the initiating event frequency was substantially below 1E-6, and therefore, the SRA concluded the finding to be of very low safety significance (Green).

This finding had a cross-cutting aspect in the area of Human Performance, Decision Making, because, in the design of a Unit 3 480 volts alternating current (VAC) MCC starter modification, Dominion did not use a conservative or bounding value as a design input for the minimum voltage under which a component might be required to operate.

[IMC 0310, Aspect H.1(b)] (1R17.2.1)

Inspection Report# : [2013007](#) (pdf)

## Barrier Integrity

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

### **(VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The

violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, "Examples of Minor Issues." Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train 'A' main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (pdf)

## Emergency Preparedness

**Significance:** G Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-03, Failure to make a 10 CFR 50.72(b)(3)(v) report for a major loss of emergency assessment capability for the stack radiation monitor**

•Severity Level IV. The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(xiii) for the failure to make the required initial notification to the NRC within eight hours of a major loss of monitoring capability. On April 16, Dominion declared the main station stack radiation monitor inoperable but did not report this to the NRC until the inspectors questioned the control room operators on April 18. Dominion evaluated the condition and made the required notification (NRC event report number 48941) on April 18, 2013, and entered the issue into their corrective action program (CAP) as CR512007.

The inspectors determined that Dominion did not notify the NRC of a major loss of emergency assessment capabilities event in the time required by 10 CFR 50.72. The inspectors determined the finding was subject to traditional enforcement because Dominion's failure to make a required report could potentially impact the NRC's regulatory function. This finding is similar to the one described in NRC Enforcement Policy, Section 6.9.d(9), "A licensee fails to make a report required by 10 CFR 50.72 or 10 CFR 50.73," which corresponds to Severity Level IV. In accordance with guidance contained in IMC 0612, "Power Reactor Inspection Reports", Section 07.03, cross-cutting aspects are not assigned to traditional enforcement violations. (Section 4OA3)

Inspection Report# : [2013003](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 24, 2014



## Millstone 3 1Q/2014 Plant Inspection Findings

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### Initiating Events

**Significance:** G Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-02, Failure to Establish Measures for the Identification and Control of Design Interfaces and for Coordinating among participating design organizations**

•Green. The inspectors noted a self-revealing Green NCV of 10 CFR 50, Criterion III, “Design Control,” when Dominion’s did not adequately implement established measures for the identification and control of design interfaces and for coordinating among participating design organizations. Specifically, Dominion failed to properly require a temporary modification for a work activity that met the design requirements of CM-AA-TCC-204, “Temporary Configuration Changes,” when workers installed an air line jumper that caused an AOV to open and led to an uncontrolled loss of RCS inventory. Dominion entered the issue into their CAP as CR511856.

The finding is more than minor because it is associated with the design control attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, Dominion failed to properly implement a temporary modification which ultimately led to the uncontrolled loss of RCS inventory. The finding was of very low safety significance (Green) because the charging system had sufficient capacity to maintain pressurizer level, the leakage would not have caused the loss of the running residual heat removal (RHR) pump for a substantial period of time, and at least one steam generator (SG) remained available. The finding had a cross-cutting aspect in Human Performance, Work Practices, because Dominion failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the station did not maintain control of activities in accordance with plant procedures [H.4(c)]. (Section 1R20)

Inspection Report# : [2013003](#) (*pdf*)

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### Mitigating Systems

**Significance:** G Feb 23, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2014002-01, Failure to Evaluate Test Results Outside of Acceptance Criteria for ‘A’ Service Water Pump**

•Green. The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XI, “Test Control,” because Dominion did not properly evaluate test results outside of the acceptance criteria for the Unit 3 ‘A’ service water (SW) pump. Specifically, on February 23, when the ‘A’ SW pump did not meet its acceptance criteria for running amps, Dominion did not fully evaluate pump operability under all conditions. Dominion’s immediate corrective actions included entering the issue into their corrective action program (CAP) and placing the pump in pull to lock status until the issue could be resolved.

The inspectors determined that Dominion's failure to properly evaluate test results outside of the acceptance criteria for the 'A' SW pump in accordance with the requirements of 10 CFR 50, Appendix B, Criterion XI, to assure that test requirements have been satisfied was a performance deficiency that was within Dominion's ability to foresee and correct, and should have been prevented. This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, without proper evaluation of the test results, Dominion kept a component in service that was later determined to be non-functional. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its technical specification (TS) allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins, in that Dominion did not operate and maintain the pump within design margins, where margins are carefully guarded and changed only through a systematic and rigorous process. [H.6] (Section 1R15)

Inspection Report# : [2014002](#) (*pdf*)

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013005-01), Inadequate Operability Determination for the TDAFW Pump following an Overspeed Trip**

Green. The inspectors identified a Green Finding (FIN) for the failure to follow Dominion Procedure OP-AA-102, "Operability Determinations," and establish adequate compensatory measures to restore reliability to the Unit 3 Turbine Driven Auxiliary Feedwater (TDAFW) Pump following overspeed trips on November 4 and December 18, 2013. The inspectors determined that the performance deficiency was within Dominion's ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) (CR531536, CR532536 and CR535411), established additional compensatory measures to address degraded pump reliability, and scheduled additional maintenance activities to more thoroughly investigate the cause of the overspeed trips.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately establish effective compensatory measures resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. The inspectors determined that, after further compensatory measures were established, the TDAFW pump maintained its operability, the AFW system maintained all safety functions, and the finding was of very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, in that Dominion did not use conservative assumptions in decision making and did not 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 (H.1.b). (Section 1R15)

Inspection Report# : [2013005](#) (*pdf*)

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013004-02, Inadequate Operability Determination for the Turbine Drive Auxiliary Feedwater (TDAFW) Pump**

Green. The inspectors identified a finding (FIN) for Dominion's failure to complete an adequate and timely operability determination as required by OP-AA-102, "Operability Determination," to assess governor control oscillations following completion of maintenance on the turbine driven auxiliary feedwater (TDAFW) pump 3FWA\*P2 on May 17, 2013. The inspectors determined that the failure to adequately evaluate pump operability was a performance deficiency that was within Dominion's ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) as CR528526 and repaired the TDAFW pump governor on August 12, 2013, prior to return to power following the reactor shutdown on August 9, 2013.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately assess operability resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. In addition, the performance deficiency is similar to examples 1.a and 2.a of IMC 0612, Appendix E, "Examples of Minor Issues." The inspectors determined that the finding was of very low safety significance (Green) because the performance deficiency did not represent a loss of system safety function or a loss of safety function of a single train for greater than its Technical Specification allowed outage time. This finding has a cross-cutting aspect in the area of Human Performance, in that Dominion uses conservative assumptions in decision making and adopts 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 (H.1(b)). (Section 1R15)

Inspection Report# : [2013004](#) (pdf)

**Significance:**  Aug 08, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000336, 423/2013010-03, Failure to Maintain Cold Shutdown Material On-Site**

•Green. The team identified a finding of very low safety significance, involving a non-cited violation of Millstone Unit 2 Operating License Condition 2.C. (3) and Unit 3 Operating License Condition 2.H for the failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, Dominion used large motors, pre-staged in the on-site warehouse for Appendix R cold shutdown (CSD) repairs, as spare parts to accomplish preventative maintenance tasks. As a result, Dominion could not have performed the designated CSD repairs and achieved CSD conditions within 72 hours as required for both Units 2 and 3 during the time period that the old motors were off-site for refurbishment. In addition, Dominion had not taken any compensatory measures to reduce the likelihood of a fire or its consequence, in lieu of not having required repair material on-site. Dominion entered these issues into its corrective action program as condition reports 522722, 522740, 522848, and 522850 and has planned corrective actions to ensure CSD repair material is never intentionally made unavailable or removed from the site.

This finding was more than minor because it was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter 0609, Appendix F, and "Fire Protection Significance Determination Process." This finding screened to very low safety significance in Phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. This finding did not have a cross-cutting aspect because it was a legacy issue and was considered to not be indicative of current licensee performance. (Section 1R05.05.9)

Inspection Report# : [2013010](#) (pdf)

**Significance:** G Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-01, Failure to Implement Annunciator Response Procedure for a Loss of Ventilation during a Battery Charge**

•Green. The inspectors identified a NCV of Technical Specification (TS) 6.8.1, “Procedures and Programs,” for failing to implement Annunciator Response Procedure (ARP) OP 3353VP1B1-4 (BATT ROOM 1, 3, 5, EXHAUST FAN FLOW LOW) and stop the equalizing battery charge that was occurring on three batteries to prevent the buildup of hydrogen gas in the Unit 3 east switchgear room when room ventilation was stopped. After a period of two hours, Dominion stopped the equalizing charge and entered the issue into their CAP as CR511856 and CR519744.

The performance deficiency is more than minor because it affected the protection against external factors attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events, such as fire, to prevent undesirable consequences (i.e. core damage). Specifically, Dominion failed to properly implement the ARP which allowed the potential build-up of hydrogen gas to occur in the east switchgear room. A hydrogen fire in the east switchgear room would have disabled numerous safety-related systems and potentially injured personnel during a time when the plant was in a yellow shutdown risk state based on RCS decay heat removal and power availability. The inspectors determined this finding to be of very low safety significance (Green) because train ‘B’ was protected and RHR loop ‘B’ was in operation providing core cooling. Train ‘B’ components and systems were physically isolated in the west switchgear room. The finding has a cross-cutting aspect in the area of Human Performance, Work Practices, because Dominion did not effectively communicate expectations regarding personnel following procedures [H.4(b)]. (Section 1R13)

Inspection Report# : [2013003](#) (*pdf*)

## Barrier Integrity

**Significance:** G Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

**(VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Dominion’s continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action.” Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, “Examples of Minor Issues.” Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute

of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train 'A' main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

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## Emergency Preparedness

**Significance:**  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2013003-03, Failure to make a 10 CFR 50.72(b)(3)(v) report for a major loss of emergency assessment capability for the stack radiation monitor**

•Severity Level IV. The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(xiii) for the failure to make the required initial notification to the NRC within eight hours of a major loss of monitoring capability. On April 16, Dominion declared the main station stack radiation monitor inoperable but did not report this to the NRC until the inspectors questioned the control room operators on April 18. Dominion evaluated the condition and made the required notification (NRC event report number 48941) on April 18, 2013, and entered the issue into their corrective action program (CAP) as CR512007.

The inspectors determined that Dominion did not notify the NRC of a major loss of emergency assessment capabilities event in the time required by 10 CFR 50.72. The inspectors determined the finding was subject to traditional enforcement because Dominion's failure to make a required report could potentially impact the NRC's regulatory function. This finding is similar to the one described in NRC Enforcement Policy, Section 6.9.d(9), "A licensee fails to make a report required by 10 CFR 50.72 or 10 CFR 50.73," which corresponds to Severity Level IV. In accordance with guidance contained in IMC 0612, "Power Reactor Inspection Reports", Section 07.03, cross-cutting aspects are not assigned to traditional enforcement violations. (Section 4OA3)

Inspection Report# : [2013003](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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### 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 : May 30, 2014



## Millstone 3 2Q/2014 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Feb 23, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2014002-01, Failure to Evaluate Test Results Outside of Acceptance Criteria for 'A' Service Water Pump**

•Green. The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XI, "Test Control," because Dominion did not properly evaluate test results outside of the acceptance criteria for the Unit 3 'A' service water (SW) pump. Specifically, on February 23, when the 'A' SW pump did not meet its acceptance criteria for running amps, Dominion did not fully evaluate pump operability under all conditions. Dominion's immediate corrective actions included entering the issue into their corrective action program (CAP) and placing the pump in pull to lock status until the issue could be resolved.

The inspectors determined that Dominion's failure to properly evaluate test results outside of the acceptance criteria for the 'A' SW pump in accordance with the requirements of 10 CFR 50, Appendix B, Criterion XI, to assure that test requirements have been satisfied was a performance deficiency that was within Dominion's ability to foresee and correct, and should have been prevented. This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, without proper evaluation of the test results, Dominion kept a component in service that was later determined to be non-functional. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its technical specification (TS) allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins, in that Dominion did not operate and maintain the pump within design margins, where margins are carefully guarded and changed only through a systematic and rigorous process. [H.6] (Section 1R15)

Inspection Report# : [2014002](#) (*pdf*)

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013005-01), Inadequate Operability Determination for the TDAFW Pump following an**

**Overspeed Trip**

Green. The inspectors identified a Green Finding (FIN) for the failure to follow Dominion Procedure OP-AA-102, “Operability Determinations,” and establish adequate compensatory measures to restore reliability to the Unit 3 Turbine Driven Auxiliary Feedwater (TDAFW) Pump following overspeed trips on November 4 and December 18, 2013. The inspectors determined that the performance deficiency was within Dominion’s ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) (CR531536, CR532536 and CR535411), established additional compensatory measures to address degraded pump reliability, and scheduled additional maintenance activities to more thoroughly investigate the cause of the overspeed trips.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately establish effective compensatory measures resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. The inspectors determined that, after further compensatory measures were established, the TDAFW pump maintained its operability, the AFW system maintained all safety functions, and the finding was of very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, in that Dominion did not use conservative assumptions in decision making and did not 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 (H.1.b). (Section 1R15)

Inspection Report# : [2013005](#) (*pdf*)

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013004-02, Inadequate Operability Determination for the Turbine Drive Auxiliary Feedwater (TDAFW) Pump**

Green. The inspectors identified a finding (FIN) for Dominion’s failure to complete an adequate and timely operability determination as required by OP-AA-102, “Operability Determination,” to assess governor control oscillations following completion of maintenance on the turbine driven auxiliary feedwater (TDAFW) pump 3FWA\*P2 on May 17, 2013. The inspectors determined that the failure to adequately evaluate pump operability was a performance deficiency that was within Dominion’s ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) as CR528526 and repaired the TDAFW pump governor on August 12, 2013, prior to return to power following the reactor shutdown on August 9, 2013.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately assess operability resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. In addition, the performance deficiency is similar to examples 1.a and 2.a of IMC 0612, Appendix E, “Examples of Minor Issues.” The inspectors determined that the finding was of very low safety significance (Green) because the performance deficiency did not represent a loss of system safety function or a loss of safety function of a single train for greater than its Technical Specification allowed outage time. This finding has a cross-cutting aspect in the area of Human Performance, in that Dominion uses conservative assumptions in decision making and adopts 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 (H.1(b)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

**Significance:**  Aug 08, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### NCV 05000336, 423/2013010-03, Failure to Maintain Cold Shutdown Material On-Site

•Green. The team identified a finding of very low safety significance, involving a non-cited violation of Millstone Unit 2 Operating License Condition 2.C. (3) and Unit 3 Operating License Condition 2.H for the failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, Dominion used large motors, pre-staged in the on-site warehouse for Appendix R cold shutdown (CSD) repairs, as spare parts to accomplish preventative maintenance tasks. As a result, Dominion could not have performed the designated CSD repairs and achieved CSD conditions within 72 hours as required for both Units 2 and 3 during the time period that the old motors were off-site for refurbishment. In addition, Dominion had not taken any compensatory measures to reduce the likelihood of a fire or its consequence, in lieu of not having required repair material on-site. Dominion entered these issues into its corrective action program as condition reports 522722, 522740, 522848, and 522850 and has planned corrective actions to ensure CSD repair material is never intentionally made unavailable or removed from the site.

This finding was more than minor because it was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter 0609, Appendix F, and "Fire Protection Significance Determination Process." This finding screened to very low safety significance in Phase 1 of the SDP because it only affected the ability to reach and maintain cold shutdown conditions. This finding did not have a cross-cutting aspect because it was a legacy issue and was considered to not be indicative of current licensee performance. (Section 1R05.05.9)

Inspection Report# : [2013010](#) (pdf)

## Barrier Integrity

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

### (VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, "Examples of Minor Issues." Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train 'A' main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (pdf)

## Emergency Preparedness

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**.NCV 05000336/2014003-03 and 05000423/2014003-03, Failure to Adequately Maintain EALs**

Green. The inspectors identified a Green NCV associated with emergency preparedness planning standard 10 CFR 50.47(b)(4) and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain the Millstone Units 2 and 3 emergency action level (EAL) schemes for assessing a loss of forced flow cooling during refueling operations. Dominion entered this issue into the corrective action program and implemented temporary corrective actions which included procedure changes to direct operators to the shutdown safety assessment checklists to determine representative RCS temperature increases in order to assess the initiating conditions for this situation.

The inspectors determined that the failure by Dominion to provide site specific criteria for operators to adequately implement the EALs for a loss of forced flow cooling during refueling was a performance deficiency that was reasonably within their ability to foresee and prevent. The finding is more than minor because it is associated with the Procedure Quality attribute of the Emergency Planning Cornerstone and affected the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with the IMC 0609, Appendix B, "Emergency Preparedness Significance Determination," the inspectors determined that this finding is of very low safety significance because the performance deficiency was an issue where two EAL initiating conditions (ICs) had been rendered ineffective such that an Unusual Event and an Alert would not be declared, or declared in a degraded manner for a loss of forced flow cooling during refueling. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, in that Dominion did not implement a CAP with a low threshold for identifying issues. Dominion's self-assessment for two previous NCVs regarding EAL deficiencies failed to identify the lack of specific criteria to assess the ICs for EALs UE1.2 and EA2.1 for a loss of forced cooling flow during refueling [P.1]. (Section 4OA5)

Inspection Report# : [2014003](#) (pdf)

## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 : August 29, 2014

## Millstone 3

### 3Q/2014 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:**  Jul 21, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Provide Adequate Maintenance Instructions for the Turbine Driven Auxiliary Feedwater Pump Governor Control Valve Linkage**

The inspectors identified a self-revealing Green NCV of TS 6.8.1, "Procedures and Programs," when Dominion did not maintain an adequate maintenance procedure to ensure reliable performance of the TDAFW system. Specifically, TDAFW properly started following the August 9, 2013, reactor trip, but was subsequently shut down after observed flow and pressure oscillations. Dominion staff discovered the control valve linkage misaligned due to a loose cam follower bearing retaining nut. As part of the repair, Dominion implemented a revision to the C MP 711 procedure to require application of thread-locker to the cam follower bearing retaining nut during reassembly. Additionally, Dominion entered this issue in their CAP as CR 522896.

The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the maintenance procedure did not provide sufficient written instructions to ensure adequate torque of the retaining nut and thereby reliable performance of the TDAFW system three months after reassembly. The finding was evaluated using IMC 0609, Attachment 4 and Appendix A, Exhibit 2.A, and determined to be of very low safety significance (Green) since it was not associated with a design or qualification deficiency, not a loss of system/function, and not an actual loss of its TS function. This finding had a cross-cutting aspect in the area of Human Performance, Documentation, in that licensee organizations are expected to create and maintain complete, accurate, and up-to-date documentation. Specifically, Dominion did not maintain a comprehensive, high-quality maintenance procedure that was thorough to assure assembly of critical TDAFW components. [H.7]

Inspection Report# : [2014008](#) (*pdf*)

**Significance:** TBD Jul 21, 2014

Identified By: Self-Revealing

Item Type: AV Apparent Violation

### **Failure to Identify and Promptly Correct a Condition Adverse to Quality**

The inspection team identified a self-revealing apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," involving Dominion's failure to promptly identify and



correct a condition adverse to quality. Specifically, the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump was operated from May 2013 through February 2014 in an adverse configuration due to the installation of an incorrect cam follower bearing. As a result of this adverse configuration, the pump experienced three overspeed trips during the subject timeframe. As a consequence, Dominion violated Technical Specification (TS) 3.7.1.2, since TDAFW was determined to be either failed or unreliable for greater than the TS allowed outage time. Dominion installed the correct cam follower, entered this issue in their corrective action program (CAP) as condition report (CR) 538743 and CR 531536, and completed a root cause evaluation (RCE) (RCE 001111).

The issue was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, operation of the TDAFW pump with the incorrect spherical bearing reduced the reliability of a risksignificant, safety-related mitigating system. The issue was evaluated in accordance with IMC 0609, Appendix A, Exhibit 2, and was determined to require a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its TS allowed outage time. The detailed risk evaluation concluded that the increase in core damage frequency of this issue is in the mid to high E-6 range, or White (low to moderate safety significance). The dominant core damage sequences involved fire scenarios resulting in control room abandonment that rely upon the TDAFW pump as the primary source of make-up to the steam generators and decay heat removal. This finding had a cross-cutting aspect in Human Performance, Consistent Process, where individuals use a consistent, systematic approach to make decisions and risk insights are incorporated as appropriate. Specifically, Dominion did not implement consistent, systematic approaches to resolve the condition as evidenced by their inadequate and inconsistent use of CAP and troubleshooting. [H.13]

Inspection Report# : [2014008](#) (pdf)

**Significance:**  Feb 23, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2014002-01, Failure to Evaluate Test Results Outside of Acceptance Criteria for 'A' Service Water Pump**

•Green. The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XI, "Test Control," because Dominion did not properly evaluate test results outside of the acceptance criteria for the Unit 3 'A' service water (SW) pump. Specifically, on February 23, when the 'A' SW pump did not meet its acceptance criteria for running amps, Dominion did not fully evaluate pump operability under all conditions. Dominion's immediate corrective actions included entering the issue into their corrective action program (CAP) and placing the pump in pull to lock status until the issue could be resolved.

The inspectors determined that Dominion's failure to properly evaluate test results outside of the acceptance criteria for the 'A' SW pump in accordance with the requirements of 10 CFR 50, Appendix B, Criterion XI, to assure that test requirements have been satisfied was a performance deficiency that was within Dominion's ability to foresee and correct, and should have been prevented. This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, without proper evaluation of the test results, Dominion kept a component in service that was later determined to be non-functional. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its technical specification (TS) allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high

safety significant. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins, in that Dominion did not operate and maintain the pump within design margins, where margins are carefully guarded and changed only through a systematic and rigorous process. [H.6] (Section 1R15)

Inspection Report# : [2014002](#) (*pdf*)

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013005-01), Inadequate Operability Determination for the TDAFW Pump following an Overspeed Trip**

Green. The inspectors identified a Green Finding (FIN) for the failure to follow Dominion Procedure OP-AA-102, “Operability Determinations,” and establish adequate compensatory measures to restore reliability to the Unit 3 Turbine Driven Auxiliary Feedwater (TDAFW) Pump following overspeed trips on November 4 and December 18, 2013. The inspectors determined that the performance deficiency was within Dominion’s ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) (CR531536, CR532536 and CR535411), established additional compensatory measures to address degraded pump reliability, and scheduled additional maintenance activities to more thoroughly investigate the cause of the overspeed trips.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately establish effective compensatory measures resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. The inspectors determined that, after further compensatory measures were established, the TDAFW pump maintained its operability, the AFW system maintained all safety functions, and the finding was of very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, in that Dominion did not use conservative assumptions in decision making and did not 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 (H.1.b). (Section 1R15)

Inspection Report# : [2013005](#) (*pdf*)

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: FIN Finding

**FIN 05000423/2013004-02, Inadequate Operability Determination for the Turbine Drive Auxiliary Feedwater (TDAFW) Pump**

Green. The inspectors identified a finding (FIN) for Dominion’s failure to complete an adequate and timely operability determination as required by OP-AA-102, “Operability Determination,” to assess governor control oscillations following completion of maintenance on the turbine driven auxiliary feedwater (TDAFW) pump 3FWA\*P2 on May 17, 2013. The inspectors determined that the failure to adequately evaluate pump operability was a performance deficiency that was within Dominion’s ability to foresee and correct. Dominion entered this issue into their corrective action program (CAP) as CR528526 and repaired the TDAFW pump governor on August 12, 2013, prior to return to power following the reactor shutdown on August 9, 2013.

The inspectors determined the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to adequately assess operability resulted in a decrease in the reliability of the auxiliary feedwater (AFW) system to mitigate events. In addition, the performance deficiency is similar to examples 1.a and 2.a of IMC 0612, Appendix E, “Examples of Minor Issues.”

The inspectors determined that the finding was of very low safety significance (Green) because the performance deficiency did not represent a loss of system safety function or a loss of safety function of a single train for greater than its Technical Specification allowed outage time. This finding has a cross-cutting aspect in the area of Human Performance, in that Dominion uses conservative assumptions in decision making and adopts 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 (H.1(b)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

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## Barrier Integrity

**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

**(VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Dominion’s continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action.” Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, “Examples of Minor Issues.” Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone’s 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train ‘A’ main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

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## Emergency Preparedness

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

### **.NCV 05000336/2014003-03 and 05000423/2014003-03, Failure to Adequately Maintain EALs**

Green. The inspectors identified a Green NCV associated with emergency preparedness planning standard 10 CFR 50.47(b)(4) and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain the Millstone Units 2 and 3 emergency action level (EAL) schemes for assessing a loss of forced flow cooling during refueling operations. Dominion entered this issue into the corrective action program and implemented temporary corrective actions which included procedure changes to direct operators to the shutdown safety assessment checklists to determine representative RCS temperature increases in order to assess the initiating conditions for this situation.

The inspectors determined that the failure by Dominion to provide site specific criteria for operators to adequately implement the EALs for a loss of forced flow cooling during refueling was a performance deficiency that was reasonably within their ability to foresee and prevent. The finding is more than minor because it is associated with the Procedure Quality attribute of the Emergency Planning Cornerstone and affected the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with the IMC 0609, Appendix B, "Emergency Preparedness Significance Determination," the inspectors determined that this finding is of very low safety significance because the performance deficiency was an issue where two EAL initiating conditions (ICs) had been rendered ineffective such that an Unusual Event and an Alert would not be declared, or declared in a degraded manner for a loss of forced flow cooling during refueling. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, in that Dominion did not implement a CAP with a low threshold for identifying issues. Dominion's self-assessment for two previous NCVs regarding EAL deficiencies failed to identify the lack of specific criteria to assess the ICs for EALs UE1.2 and EA2.1 for a loss of forced cooling flow during refueling [P.1]. (Section 40A5)

Inspection Report# : [2014003](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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

## Millstone 3

### 4Q/2014 Plant Inspection Findings

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## Initiating Events

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Manage Risk of RSST Testing**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(4) for the failure to properly assess and manage the risk of work in the switchyard during the Unit 3 refueling outage. The inspectors determined that Dominion incorrectly assumed the risk mitigation plans were sufficient to allow them to not have to take a penalty factor for off-site grid risk. Because Dominion did not consider the potential for the 15T breaker to open during the RSST leakage reactance testing or determine any mitigating actions to take in case of this possibility, they incorrectly classified the evolution as Yellow risk instead of Orange.

The inspectors determined that the failure to properly assess and manage risk is a performance deficiency which is more than minor because it would affect the Protection Against External Factors attribute of the Initiating Events cornerstone. The underlying issue that Dominion did not take adequate mitigating actions to reduce risk for has to do with the reliability of offsite power to the station. In addition, it is similar to Example 7.e from IMC 0612, Appendix E, "Examples of Minor Issues", which states that the failure to perform an adequate risk assessment when required to do so is more than minor if the overall elevated plant risk would put the plant into a higher licensee-established risk category. An adequate risk assessment would have assessed the plant risk as Orange, not Yellow. The inspectors evaluated the significance of the finding using IMC 0609 Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process." There is a note in this appendix which directs review of the issue if the licensee only uses qualitative analyses of plant configuration risk due to maintenance activities. The inspectors followed the guidance of this note and determined the issue was of very low safety significance in consultation with NRC management. The duration of the unplanned south bus outage was short (13 hours), and the station took additional risk mitigation actions after the event, including suspending all work in the switchyard and transformers and the control room briefed EOP 3501, Loss of All AC Power. The inspectors determined this issue had a cross cutting aspect in the area of Human Performance, Change Management, where managers maintain a clear focus on nuclear safety when implementing the change management process to ensure that significant unintended consequences are avoided. Specifically, the RSST testing performed during the outage was the initial performance of this specific test and all failure modes were not fully assessed prior to the test date. (H.3)

Inspection Report# : [2014005](#) (*pdf*)

**Significance:** N/A Aug 01, 2014

Identified By: NRC

Item Type: AV Apparent Violation

### **Failure to Complete a 10 CFR 50.59 Evaluation for Removal of SLOD**

The NRC identified a Severity Level III AV of Title 10 of the Code of Federal Regulations (10 CFR) 50.59, "Changes, Tests, and Experiments," for Dominion's failure to complete a 10 CFR 50.59 evaluation and obtain a license amendment for a change made to the facility as described in the Updated Final Safety Analysis Report (UFSAR). Specifically, Dominion removed a special protection system (SPS), known as severe line outage detection (SLOD), which was described in the UFSAR. Dominion concluded in the 10 CFR 50.59 screening that a full 10 CFR 50.59 evaluation was not required and, therefore, prior NRC approval was not needed to implement this change. The team concluded that prior NRC approval likely was required because the removal of SLOD may have resulted in more



than a minimal increase in the likelihood of occurrence of a malfunction of the offsite power system as described in the UFSAR. Dominion has documented condition reports CR 553967 and CR 551068, and participated in a root cause evaluation with Northeast Utilities to determine whether the relay operations that initiated the events of May 25, 2014, were appropriate for the circumstances. Dominion also implemented a compensatory measure by issuing an Operations Standing Order for interim guidance on offsite line outages and plant generation output.

The team determined that the failure of Dominion to complete a 10 CFR 50.59 evaluation of the modification for the removal of the SLOD system involved traditional enforcement because it impacted the NRC's ability to perform its regulatory function. This AV was determined to be more than minor because the team determined that the change to the facility required a full 10 CFR 50.59 evaluation and it likely would have required Commission review and approval prior to implementation. The severity level of this AV was determined, in part, using SDP risk significance in accordance with the NRC Enforcement Policy. A Region I Senior Risk Analyst conducted a conditional core damage probability estimate and determined that it was most properly characterized at a Severity Level III. Cross-cutting aspects are not assigned to traditional enforcement violations

Inspection Report# : [2014011](#) (pdf)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (pdf)

## **Mitigating Systems**

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Correct Multiple 'A' HVK Start and Runtime Failures**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(1) for the failure to determine if the goals or corrective actions for the (a)(1) monitoring plan for the SLCRS system should be adjusted following an additional failure of the

auxiliary building ventilation system in July 2014. ER-AA-MRL-100, Implementing Maintenance Rule, states that when a goal is not met the system engineer shall obtain expert panel review and approval of the goal not met and appropriateness of the new goal. This had not happened at the conclusion of the inspection period. Dominion entered the issue into the corrective action program as CR 528856 and 554215.

The inspectors determined that not evaluating the SLCRS (a)(1) monitoring plan after the July 2014 failure as required by 10 CFR 50.65 was a performance deficiency which is more than minor because it would affect the Barrier Integrity cornerstone SSC and barrier performance attribute due to the damper failures. Maintenance rule failures of a system in (a)(1) monitoring status need to be evaluated for additional failure mechanisms not covered by the existing monitoring plan. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, SDP for Findings at Power and screened it to Green using Exhibit 3, section B because the finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

The inspectors determined this issue had a cross cutting aspect in the area of Problem Identification and Resolution, Resolution, where the organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. As stated in NUREG 2165 PI.3 Example 2, "Deferrals of corrective actions are minimized; when required, due dates are extended using an established process that appropriately considers safety significance." PI-AA-200, Corrective Action, requires an assessment of risk and vulnerabilities associated with extending corrective actions. Dominion did not assess the risk of extending the MRE as it related to the implementation of the maintenance rule and improperly allowed 6 extensions of the assignment. (P.3)

Inspection Report# : [2014005](#) (pdf)

**Significance:** G Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Implement Standing Order Restrictions into the EOPs and AOPs for the Unit 3 TDAFW Pump Flow Control Valves**

The inspectors identified a Green NCV of Technical Specification 6.8.1, Procedures, for the failure to accurately maintain the Emergency Operating Procedures (EOPs) and Abnormal Operating Procedures (AOPs) by not including operating restrictions that had been promulgated as a temporary order (Standing Order SO 14-04) regarding the limitation of the closure sequence and rate for the TDAFW pump flow control valves (3FWA\*HCV36A, B, C and D). Dominion's immediate corrective actions included approving a revision to the appropriate AOPs and EOPs to incorporate the throttling restrictions.

The inspectors determined that Dominion's failure to incorporate TDAFW pump flow control valve throttling rate restrictions in the AOPs and EOPs was within Dominion's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the procedural quality attribute of the reactor safety, mitigating systems cornerstone and 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, Dominion did not incorporate operating restriction on the throttling rate of the TDAFW pump flow control valves into the post event procedures (AOPs and EOPs). In accordance with IMC 0609.04, "Initial Characterization of Findings" and Appendix 'A' Exhibit 2, "The Significance Determination Process for Findings at Power," the inspectors determined the finding is of very low (Green) safety significance because the performance deficiency involved a design deficiency but did not involve an actual loss of safety function, represent an actual loss of safety function of a single train for greater than TS allowed outage time, did not screen as potentially risk significant due to a seismic, flooding or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins, in that Dominion did not operate and maintain the pump within sufficient design margin where margins are carefully guarded and changed only through a systematic and rigorous process. [H.6]

Inspection Report# : [2014005](#) (pdf)

**Significance:**  Dec 09, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Resolve Anomalous Data During Complex Troubleshooting of the Turbine Driven Auxiliary Feedwater Pump Controls**

The Team identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” for the failure to follow procedure MA-AA-103, Conduct of Troubleshooting, Revision 11 following the failure of the TDAFW pump to properly start on September 10, 2014, during quarterly surveillance testing. Specifically, between September 10 and September 13, 2014, Dominion failed to identify, review and address conflicting troubleshooting results for the governor shutdown relay (3CR) and the electrical overspeed relay (1CON) in the TDAFW control circuit by failing to compare troubleshooting result with the expected results. Dominion entered this issue into their corrective action program as condition report 567073.

This finding was more than minor because if left uncorrected, the failure to address anomalous conditions or inconsistent data in accordance with procedural requirements could result in degraded or deficient conditions. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. These troubleshooting issues, given the actions taken by Dominion to replace electrical components and the governor and subsequent satisfactory surveillance testing and electrical circuit checks, had no impact on TDAFW pump functionality. The Team concluded that this finding had a cross-cutting aspect in the Human Performance, Teamwork area because individuals and work groups failed to communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. (H.4)

Inspection Report# : [2014013](#) (pdf)

**Significance:**  Dec 09, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Promptly Identify and Correct Adverse Conditions related to the Turbine Driven Auxiliary Feedwater Pump Governor to Control Valve Linkage**

The Team identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions” associated with the failure to identify and correct adverse conditions related to the TDAFW pump governor to control valve linkage which potentially could have affected the reliability of the pump. Specifically, previously unidentified cam-plate pivot bushing wear and non-optimal linkage setup allowed degradation of the cam-follower spherical bearing and potential linkage sluggishness and binding from February 4 to October 29, 2014, when the unit entered a refueling outage. Dominion addressed these linkage issues during the refueling outage and entered this issue into their corrective action program as condition report 563885.

This finding was more than minor because it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Leaving the control linkage misalignment issues uncorrected could have reduced the reliability of the TDAFW pump. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. The linkage issues had no impact on TDAFW pump functionality based on satisfactory surveillance test results. The Team determined that this issue had a cross-cutting aspect in the Human Performance cross-cutting area associated with Conservative Bias, in that Dominion failed to identify the potential importance of deficiencies in the control linkage configuration. (H.14)

Inspection Report# : [2014013](#) (pdf)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Correctly Implement Emergency Operating Procedures**

The NRC identified a Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1 “Procedures,” because the Millstone Unit 3 control room personnel did not implement Emergency Operating Procedures (EOP) in a timely manner and in accordance with EOP usage guidelines. Specifically, from approximately 0845 to 1438 on May 25, 2014, the licensed control room operators were effectively stopped on a transition step in ES-0.1, “Reactor Trip Response,” Step 14, which is a decision step requesting the verification of offsite power availability. However, EOP rules of usage would have required a transition into ES-0.2, “Natural Circulation Cooldown.” Dominion entered this issue into the corrective action program under CR 551059 and CR 553970, and initiated an apparent cause evaluation. The team determined there was a performance deficiency, in that Millstone Unit 3 control room personnel did not properly implement and execute procedurally-required actions of the EOPs in a timely manner and in accordance with the EOP usage rules, during a loss of offsite power and plant trip event. The performance deficiency was determined to be more than minor because it is associated with the Human 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).

Additionally, the performance deficiency, if left uncorrected, would have the potential to lead to a more significant safety concern. The inspectors evaluated the finding using the Phase 1, “Initial Screening and Characterization of Findings,” worksheet in Attachment 4 to IMC 0609, “Significance Determination Process” and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance (Green) because it did not result in an actual loss of function, only delayed additional cooldown and boration activities that would have assisted in event mitigation given the plant conditions at the time. The team determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Procedure Adherence component, because Millstone Unit 3 licensed personnel did not implement EOPs in a timely manner and in accordance with the EOPUG [H.8] Inspection Report# : [2014011](#) (pdf)

**Significance:**  Jul 21, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Provide Adequate Maintenance Instructions for the Turbine Driven Auxiliary Feedwater Pump Governor Control Valve Linkage**

The inspectors identified a self-revealing Green NCV of TS 6.8.1, “Procedures and Programs,” when Dominion did not maintain an adequate maintenance procedure to ensure reliable performance of the TDAFW system. Specifically, TDAFW properly started following the August 9, 2013, reactor trip, but was subsequently shut down after observed flow and pressure oscillations. Dominion staff discovered the control valve linkage misaligned due to a loose cam follower bearing retaining nut. As part of the repair, Dominion implemented a revision to the C MP 711 procedure to require application of thread-locker to the cam follower bearing retaining nut during reassembly. Additionally, Dominion entered this issue in their CAP as CR 522896.

The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the maintenance procedure did not provide sufficient written instructions to ensure adequate torque of the retaining nut and thereby reliable performance of the TDAFW system three months after reassembly. The finding was evaluated using IMC 0609, Attachment 4 and Appendix A, Exhibit 2.A, and determined to be of very low safety significance (Green) since it was not associated with a design or qualification deficiency, not a loss of system/function, and not an actual loss of its TS function. This finding had a cross-cutting aspect in the area of Human Performance,

Documentation, in that licensee organizations are expected to create and maintain complete, accurate, and up-to-date documentation. Specifically, Dominion did not maintain a comprehensive, high-quality maintenance procedure that was thorough to assure assembly of critical TDAFW components. [H.7]

Inspection Report# : [2014008](#) (*pdf*)

**Significance:** **W** Jul 21, 2014

Identified By: NRC

Item Type: VIO Violation

**Failure to Identify and Promptly Correct a Condition Adverse to Quality**

The inspection team identified a self-revealing apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," involving Dominion's failure to promptly identify and correct a condition adverse to quality. Specifically, the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump was operated from May 2013 through February 2014 in an adverse configuration due to the installation of an incorrect cam follower bearing. As a result of this adverse configuration, the pump experienced three overspeed trips during the subject timeframe. As a consequence, Dominion violated Technical Specification (TS) 3.7.1.2, since TDAFW was determined to be either failed or unreliable for greater than the TS allowed outage time. Dominion installed the correct cam follower, entered this issue in their corrective action program (CAP) as condition report (CR) 538743 and CR 531536, and completed a root cause evaluation (RCE) (RCE 001111).

The issue was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, operation of the TDAFW pump with the incorrect spherical bearing reduced the reliability of a risksignificant, safety-related mitigating system. The issue was evaluated in accordance with IMC 0609, Appendix A, Exhibit 2, and was determined to require a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its TS allowed outage time. The detailed risk evaluation concluded that the increase in core damage frequency of this issue is in the mid to high E-6 range, or White (low to moderate safety significance). The dominant core damage sequences involved fire scenarios resulting in control room abandonment that rely upon the TDAFW pump as the primary source of make-up to the steam generators and decay heat removal. This finding had a cross-cutting aspect in Human Performance, Consistent Process, where individuals use a consistent, systematic approach to make decisions and risk insights are incorporated as appropriate. Specifically, Dominion did not implement consistent, systematic approaches to resolve the condition as evidenced by their inadequate and inconsistent use of CAP and troubleshooting. [H.13]

Inspection Report# : [2014008](#) (*pdf*)

**Significance:** **G** Feb 23, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**NCV 05000423/2014002-01, Failure to Evaluate Test Results Outside of Acceptance Criteria for 'A' Service Water Pump**

•Green. The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XI, "Test Control," because Dominion did not properly evaluate test results outside of the acceptance criteria for the Unit 3 'A' service water (SW) pump. Specifically, on February 23, when the 'A' SW pump did not meet its acceptance criteria for running amps, Dominion did not fully evaluate pump operability under all conditions. Dominion's immediate corrective actions included entering the issue into their corrective action program (CAP) and placing the pump in pull to lock status until the issue could be resolved.

The inspectors determined that Dominion's failure to properly evaluate test results outside of the acceptance criteria



for the 'A' SW pump in accordance with the requirements of 10 CFR 50, Appendix B, Criterion XI, to assure that test requirements have been satisfied was a performance deficiency that was within Dominion's ability to foresee and correct, and should have been prevented. This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, without proper evaluation of the test results, Dominion kept a component in service that was later determined to be non-functional. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its technical specification (TS) allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins, in that Dominion did not operate and maintain the pump within design margins, where margins are carefully guarded and changed only through a systematic and rigorous process. [H.6] (Section 1R15)

Inspection Report# : [2014002](#) (pdf)

## Barrier Integrity

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Review Additional Failures Against the SLCRS (a)(1) Monitoring Plan**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(1) for the failure to determine if the goals or corrective actions for the (a)(1) monitoring plan for the SLCRS system should be adjusted following an additional failure of the auxiliary building ventilation system in July 2014. ER-AA-MRL-100, Implementing Maintenance Rule, states that when a goal is not met the system engineer shall obtain expert panel review and approval of the goal not met and appropriateness of the new goal. This had not happened at the conclusion of the inspection period. Dominion entered the issue into the corrective action program as CR 528856 and 554215.

The inspectors determined that not evaluating the SLCRS (a)(1) monitoring plan after the July 2014 failure as required by 10 CFR 50.65 was a performance deficiency which is more than minor because it would affect the Barrier Integrity cornerstone SSC and barrier performance attribute due to the damper failures. Maintenance rule failures of a system in (a)(1) monitoring status need to be evaluated for additional failure mechanisms not covered by the existing monitoring plan. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, SDP for Findings at Power and screened it to Green using Exhibit 3, section B because the finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

The inspectors determined this issue had a cross cutting aspect in the area of Problem Identification and Resolution, Resolution, where the organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. As stated in NUREG 2165 PI.3 Example 2, "Deferrals of corrective actions are minimized; when required, due dates are extended using an established process that appropriately considers safety significance." PI-AA-200, Corrective Action, requires an assessment of risk and vulnerabilities associated with extending corrective actions. Dominion did not assess the risk of extending the MRE as it related to the implementation of the maintenance rule and improperly allowed 6 extensions of the assignment. (P.3)

Inspection Report# : [2014005](#) (pdf)



**Significance:**  Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

**(VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Dominion’s continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action.” Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, “Examples of Minor Issues.” Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone’s 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train ‘A’ main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

## Emergency Preparedness

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**.NCV 05000336/2014003-03 and 05000423/2014003-03, Failure to Adequately Maintain EALs**

Green. The inspectors identified a Green NCV associated with emergency preparedness planning standard 10 CFR 50.47(b)(4) and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain the Millstone Units 2 and 3 emergency action level (EAL) schemes for assessing a loss of forced flow cooling during refueling operations. Dominion entered this issue into the corrective action program and implemented temporary corrective actions which included procedure changes to direct operators to the shutdown

safety assessment checklists to determine representative RCS temperature increases in order to assess the initiating conditions for this situation.

The inspectors determined that the failure by Dominion to provide site specific criteria for operators to adequately implement the EALs for a loss of forced flow cooling during refueling was a performance deficiency that was reasonably within their ability to foresee and prevent. The finding is more than minor because it is associated with the Procedure Quality attribute of the Emergency Planning Cornerstone and affected the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with the IMC 0609, Appendix B, "Emergency Preparedness Significance Determination," the inspectors determined that this finding is of very low safety significance because the performance deficiency was an issue where two EAL initiating conditions (ICs) had been rendered ineffective such that an Unusual Event and an Alert would not be declared, or declared in a degraded manner for a loss of forced flow cooling during refueling. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, in that Dominion did not implement a CAP with a low threshold for identifying issues. Dominion's self-assessment for two previous NCVs regarding EAL deficiencies failed to identify the lack of specific criteria to assess the ICs for EALs UE1.2 and EA2.1 for a loss of forced cooling flow during refueling [P.1]. (Section 4OA5)

Inspection Report# : [2014003](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 26, 2015

## Millstone 3

# 1Q/2015 Plant Inspection Findings

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## Initiating Events

**Significance:** G Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Manage Risk of RSST Testing**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(4) for the failure to properly assess and manage the risk of work in the switchyard during the Unit 3 refueling outage. The inspectors determined that Dominion incorrectly assumed the risk mitigation plans were sufficient to allow them to not have to take a penalty factor for off-site grid risk. Because Dominion did not consider the potential for the 15T breaker to open during the RSST leakage reactance testing or determine any mitigating actions to take in case of this possibility, they incorrectly classified the evolution as Yellow risk instead of Orange.

The inspectors determined that the failure to properly assess and manage risk is a performance deficiency which is more than minor because it would affect the Protection Against External Factors attribute of the Initiating Events cornerstone. The underlying issue that Dominion did not take adequate mitigating actions to reduce risk for has to do with the reliability of offsite power to the station. In addition, it is similar to Example 7.e from IMC 0612, Appendix E, "Examples of Minor Issues", which states that the failure to perform an adequate risk assessment when required to do so is more than minor if the overall elevated plant risk would put the plant into a higher licensee-established risk category. An adequate risk assessment would have assessed the plant risk as Orange, not Yellow. The inspectors evaluated the significance of the finding using IMC 0609 Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process." There is a note in this appendix which directs review of the issue if the licensee only uses qualitative analyses of plant configuration risk due to maintenance activities. The inspectors followed the guidance of this note and determined the issue was of very low safety significance in consultation with NRC management. The duration of the unplanned south bus outage was short (13 hours), and the station took additional risk mitigation actions after the event, including suspending all work in the switchyard and transformers and the control room briefed EOP 3501, Loss of All AC Power. The inspectors determined this issue had a cross cutting aspect in the area of Human Performance, Change Management, where managers maintain a clear focus on nuclear safety when implementing the change management process to ensure that significant unintended consequences are avoided. Specifically, the RSST testing performed during the outage was the initial performance of this specific test and all failure modes were not fully assessed prior to the test date. (H.3)

Inspection Report# : [2014005](#) (*pdf*)

**Significance:** N/A Aug 01, 2014

Identified By: NRC

Item Type: AV Apparent Violation

### **Failure to Complete a 10 CFR 50.59 Evaluation for Removal of SLOD**

The NRC identified a Severity Level III AV of Title 10 of the Code of Federal Regulations (10 CFR) 50.59, "Changes, Tests, and Experiments," for Dominion's failure to complete a 10 CFR 50.59 evaluation and obtain a license amendment for a change made to the facility as described in the Updated Final Safety Analysis Report (UFSAR). Specifically, Dominion removed a special protection system (SPS), known as severe line outage detection (SLOD), which was described in the UFSAR. Dominion concluded in the 10 CFR 50.59 screening that a full 10 CFR 50.59 evaluation was not required and, therefore, prior NRC approval was not needed to implement this change. The team concluded that prior NRC approval likely was required because the removal of SLOD may have resulted in more

than a minimal increase in the likelihood of occurrence of a malfunction of the offsite power system as described in the UFSAR. Dominion has documented condition reports CR 553967 and CR 551068, and participated in a root cause evaluation with Northeast Utilities to determine whether the relay operations that initiated the events of May 25, 2014, were appropriate for the circumstances. Dominion also implemented a compensatory measure by issuing an Operations Standing Order for interim guidance on offsite line outages and plant generation output.

The team determined that the failure of Dominion to complete a 10 CFR 50.59 evaluation of the modification for the removal of the SLOD system involved traditional enforcement because it impacted the NRC's ability to perform its regulatory function. This AV was determined to be more than minor because the team determined that the change to the facility required a full 10 CFR 50.59 evaluation and it likely would have required Commission review and approval prior to implementation. The severity level of this AV was determined, in part, using SDP risk significance in accordance with the NRC Enforcement Policy. A Region I Senior Risk Analyst conducted a conditional core damage probability estimate and determined that it was most properly characterized at a Severity Level III. Cross-cutting aspects are not assigned to traditional enforcement violations

Inspection Report# : [2014011](#) (pdf)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (pdf)

## **Mitigating Systems**

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Identify Charging and Primary Closed Cooling Water Area Heater Transformers Equipment Environmental Qualification Non-Conformance**

The inspectors identified a Green, Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI associated with

Dominion's failure to promptly identify conditions adverse to quality associated with the Millstone Power Station Unit 3 CHS (Charging System) & CCP (Component Cooling Primary) area heaters which are required to support operability of the charging system when outside temperature is less than 17F, from September 17, 2014 to February 11, 2015. Dominion completed restoration of the 'B' train CHS & CCP area heaters on February 14, 2015 and has scheduled completion of the 'A' train heater restoration for April 16, 2015

This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance as safety function of the charging system was not lost based upon the capability of the nonconforming heaters to maintain charging area temperatures greater than 65F. Inspectors identified a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence associated with Dominion's failure to adequately screen the condition adverse to quality upon discovery of heater failure and failure to evaluate heater maintenance history when making changes to heater preventive maintenance frequency. (H.8)

Inspection Report# : [2015001](#) (pdf)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Correct Multiple 'A' HVK Start and Runtime Failures**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(1) for the failure to determine if the goals or corrective actions for the (a)(1) monitoring plan for the SLCRS system should be adjusted following an additional failure of the auxiliary building ventilation system in July 2014. ER-AA-MRL-100, Implementing Maintenance Rule, states that when a goal is not met the system engineer shall obtain expert panel review and approval of the goal not met and appropriateness of the new goal. This had not happened at the conclusion of the inspection period. Dominion entered the issue into the corrective action program as CR 528856 and 554215.

The inspectors determined that not evaluating the SLCRS (a)(1) monitoring plan after the July 2014 failure as required by 10 CFR 50.65 was a performance deficiency which is more than minor because it would affect the Barrier Integrity cornerstone SSC and barrier performance attribute due to the damper failures. Maintenance rule failures of a system in (a)(1) monitoring status need to be evaluated for additional failure mechanisms not covered by the existing monitoring plan. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, SDP for Findings at Power and screened it to Green using Exhibit 3, section B because the finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

The inspectors determined this issue had a cross cutting aspect in the area of Problem Identification and Resolution, Resolution, where the organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. As stated in NUREG 2165 PI.3 Example 2, "Deferrals of corrective actions are minimized; when required, due dates are extended using an established process that appropriately considers safety significance." PI-AA-200, Corrective Action, requires an assessment of risk and vulnerabilities associated with extending corrective actions. Dominion did not assess the risk of extending the MRE as it related to the implementation of the maintenance rule and improperly allowed 6 extensions of the assignment. (P.3)

Inspection Report# : [2014005](#) (pdf)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation



### **Failure to Implement Standing Order Restrictions into the EOPs and AOPs for the Unit 3 TDAFW Pump Flow Control Valves**

The inspectors identified a Green NCV of Technical Specification 6.8.1, Procedures, for the failure to accurately maintain the Emergency Operating Procedures (EOPs) and Abnormal Operating Procedures (AOPs) by not including operating restrictions that had been promulgated as a temporary order (Standing Order SO 14-04) regarding the limitation of the closure sequence and rate for the TDAFW pump flow control valves (3FWA\*HCV36A, B, C and D). Dominion's immediate corrective actions included approving a revision to the appropriate AOPs and EOPs to incorporate the throttling restrictions.

The inspectors determined that Dominion's failure to incorporate TDAFW pump flow control valve throttling rate restrictions in the AOPs and EOPs was within Dominion's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the procedural quality attribute of the reactor safety, mitigating systems cornerstone and 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, Dominion did not incorporate operating restriction on the throttling rate of the TDAFW pump flow control valves into the post event procedures (AOPs and EOPs). In accordance with IMC 0609.04, "Initial Characterization of Findings" and Appendix 'A' Exhibit 2, "The Significance Determination Process for Findings at Power," the inspectors determined the finding is of very low (Green) safety significance because the performance deficiency involved a design deficiency but did not involve an actual loss of safety function, represent an actual loss of safety function of a single train for greater than TS allowed outage time, did not screen as potentially risk significant due to a seismic, flooding or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins, in that Dominion did not operate and maintain the pump within sufficient design margin where margins are carefully guarded and changed only through a systematic and rigorous process. [H.6]

Inspection Report# : [2014005](#) (*pdf*)

**Significance:**  Dec 09, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Resolve Anomalous Data During Complex Troubleshooting of the Turbine Driven Auxiliary Feedwater Pump Controls**

The Team identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure to follow procedure MA-AA-103, Conduct of Troubleshooting, Revision 11 following the failure of the TDAFW pump to properly start on September 10, 2014, during quarterly surveillance testing. Specifically, between September 10 and September 13, 2014, Dominion failed to identify, review and address conflicting troubleshooting results for the governor shutdown relay (3CR) and the electrical overspeed relay (1CON) in the TDAFW control circuit by failing to compare troubleshooting result with the expected results. Dominion entered this issue into their corrective action program as condition report 567073.

This finding was more than minor because if left uncorrected, the failure to address anomalous conditions or inconsistent data in accordance with procedural requirements could result in degraded or deficient conditions. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. These troubleshooting issues, given the actions taken by Dominion to replace electrical components and the governor and subsequent satisfactory surveillance testing and electrical circuit checks, had no impact on TDAFW pump functionality. The Team concluded that this finding had a cross-cutting aspect in the Human Performance, Teamwork area because individuals and work groups failed to communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. (H.4)

Inspection Report# : [2014013](#) (*pdf*)



**Significance:** G Dec 09, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Promptly Identify and Correct Adverse Conditions related to the Turbine Driven Auxiliary Feedwater Pump Governor to Control Valve Linkage**

The Team identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions” associated with the failure to identify and correct adverse conditions related to the TDAFW pump governor to control valve linkage which potentially could have affected the reliability of the pump. Specifically, previously unidentified cam-plate pivot bushing wear and non-optimal linkage setup allowed degradation of the cam-follower spherical bearing and potential linkage sluggishness and binding from February 4 to October 29, 2014, when the unit entered a refueling outage. Dominion addressed these linkage issues during the refueling outage and entered this issue into their corrective action program as condition report 563885.

This finding was more than minor because it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Leaving the control linkage misalignment issues uncorrected could have reduced the reliability of the TDAFW pump. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. The linkage issues had no impact on TDAFW pump functionality based on satisfactory surveillance test results. The Team determined that this issue had a cross-cutting aspect in the Human Performance cross-cutting area associated with Conservative Bias, in that Dominion failed to identify the potential importance of deficiencies in the control linkage configuration. (H.14) Inspection Report# : [2014013](#) (*pdf*)

**Significance:** G Aug 01, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Correctly Implement Emergency Operating Procedures**

The NRC identified a Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1 “Procedures,” because the Millstone Unit 3 control room personnel did not implement Emergency Operating Procedures (EOP) in a timely manner and in accordance with EOP usage guidelines. Specifically, from approximately 0845 to 1438 on May 25, 2014, the licensed control room operators were effectively stopped on a transition step in ES-0.1, “Reactor Trip Response,” Step 14, which is a decision step requesting the verification of offsite power availability. However, EOP rules of usage would have required a transition into ES-0.2, “Natural Circulation Cooldown.” Dominion entered this issue into the corrective action program under CR 551059 and CR 553970, and initiated an apparent cause evaluation. The team determined there was a performance deficiency, in that Millstone Unit 3 control room personnel did not properly implement and execute procedurally-required actions of the EOPs in a timely manner and in accordance with the EOP usage rules, during a loss of offsite power and plant trip event. The performance deficiency was determined to be more than minor because it is associated with the Human 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).

Additionally, the performance deficiency, if left uncorrected, would have the potential to lead to a more significant safety concern. The inspectors evaluated the finding using the Phase 1, “Initial Screening and Characterization of Findings,” worksheet in Attachment 4 to IMC 0609, “Significance Determination Process” and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance (Green) because it did not result in an actual loss of function, only delayed additional cooldown and boration activities that would have assisted in event mitigation given the plant conditions at the time. The team determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Procedure Adherence component, because Millstone Unit 3 licensed personnel did not implement EOPs in a timely manner and in accordance with the EOPUG [H.8] Inspection Report# : [2014011](#) (*pdf*)

**Significance:** **G** Jul 21, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

**Failure to Provide Adequate Maintenance Instructions for the Turbine Driven Auxiliary Feedwater Pump Governor Control Valve Linkage**

The inspectors identified a self-revealing Green NCV of TS 6.8.1, “Procedures and Programs,” when Dominion did not maintain an adequate maintenance procedure to ensure reliable performance of the TDAFW system. Specifically, TDAFW properly started following the August 9, 2013, reactor trip, but was subsequently shut down after observed flow and pressure oscillations. Dominion staff discovered the control valve linkage misaligned due to a loose cam follower bearing retaining nut. As part of the repair, Dominion implemented a revision to the C MP 711 procedure to require application of thread-locker to the cam follower bearing retaining nut during reassembly. Additionally, Dominion entered this issue in their CAP as CR 522896.

The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the maintenance procedure did not provide sufficient written instructions to ensure adequate torque of the retaining nut and thereby reliable performance of the TDAFW system three months after reassembly. The finding was evaluated using IMC 0609, Attachment 4 and Appendix A, Exhibit 2.A, and determined to be of very low safety significance (Green) since it was not associated with a design or qualification deficiency, not a loss of system/function, and not an actual loss of its TS function. This finding had a cross-cutting aspect in the area of Human Performance, Documentation, in that licensee organizations are expected to create and maintain complete, accurate, and up-to-date documentation. Specifically, Dominion did not maintain a comprehensive, high-quality maintenance procedure that was thorough to assure assembly of critical TDAFW components. [H.7]

Inspection Report# : [2014008](#) (*pdf*)

**Significance:** **W** Jul 21, 2014

Identified By: NRC

Item Type: VIO Violation

**Failure to Identify and Promptly Correct a Condition Adverse to Quality**

The inspection team identified a self-revealing apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, “Corrective Action,” involving Dominion’s failure to promptly identify and correct a condition adverse to quality. Specifically, the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump was operated from May 2013 through February 2014 in an adverse configuration due to the installation of an incorrect cam follower bearing. As a result of this adverse configuration, the pump experienced three overspeed trips during the subject timeframe. As a consequence, Dominion violated Technical Specification (TS) 3.7.1.2, since TDAFW was determined to be either failed or unreliable for greater than the TS allowed outage time. Dominion installed the correct cam follower, entered this issue in their corrective action program (CAP) as condition report (CR) 538743 and CR 531536, and completed a root cause evaluation (RCE) (RCE 001111).

The issue was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, operation of the TDAFW pump with the incorrect spherical bearing reduced the reliability of a risksignificant, safety-related

mitigating system. The issue was evaluated in accordance with IMC 0609, Appendix A, Exhibit 2, and was determined to require a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its TS allowed outage time. The detailed risk evaluation concluded that the increase in core damage frequency of this issue is in the mid to high E-6 range, or White (low to moderate safety significance). The dominant core damage sequences involved fire scenarios resulting in control room abandonment that rely upon the TDAFW pump as the primary source of make-up to the steam generators and decay heat removal. This finding had a cross-cutting aspect in Human Performance, Consistent Process, where individuals use a consistent, systematic approach to make decisions and risk insights are incorporated as appropriate. Specifically, Dominion did not implement consistent, systematic approaches to resolve the condition as evidenced by their inadequate and inconsistent use of CAP and troubleshooting. [H.13]  
Inspection Report# : [2014008](#) (*pdf*)

## Barrier Integrity

**Significance:** G Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Review Additional Failures Against the SLCRS (a)(1) Monitoring Plan**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(1) for the failure to determine if the goals or corrective actions for the (a)(1) monitoring plan for the SLCRS system should be adjusted following an additional failure of the auxiliary building ventilation system in July 2014. ER-AA-MRL-100, Implementing Maintenance Rule, states that when a goal is not met the system engineer shall obtain expert panel review and approval of the goal not met and appropriateness of the new goal. This had not happened at the conclusion of the inspection period. Dominion entered the issue into the corrective action program as CR 528856 and 554215.

The inspectors determined that not evaluating the SLCRS (a)(1) monitoring plan after the July 2014 failure as required by 10 CFR 50.65 was a performance deficiency which is more than minor because it would affect the Barrier Integrity cornerstone SSC and barrier performance attribute due to the damper failures. Maintenance rule failures of a system in (a)(1) monitoring status need to be evaluated for additional failure mechanisms not covered by the existing monitoring plan. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, SDP for Findings at Power and screened it to Green using Exhibit 3, section B because the finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

The inspectors determined this issue had a cross cutting aspect in the area of Problem Identification and Resolution, Resolution, where the organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. As stated in NUREG 2165 PI.3 Example 2, "Deferrals of corrective actions are minimized; when required, due dates are extended using an established process that appropriately considers safety significance." PI-AA-200, Corrective Action, requires an assessment of risk and vulnerabilities associated with extending corrective actions. Dominion did not assess the risk of extending the MRE as it related to the implementation of the maintenance rule and improperly allowed 6 extensions of the assignment. (P.3)

Inspection Report# : [2014005](#) (*pdf*)

**Significance:** G Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

**(VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, "Examples of Minor Issues." Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone's 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train 'A' main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)

## Emergency Preparedness

**Significance:** G Jun 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**.NCV 05000336/2014003-03 and 05000423/2014003-03, Failure to Adequately Maintain EALs**

Green. The inspectors identified a Green NCV associated with emergency preparedness planning standard 10 CFR 50.47(b)(4) and the requirements of Sections IV.B and IV.C of Appendix E to 10 CFR Part 50. Specifically, Dominion did not maintain the Millstone Units 2 and 3 emergency action level (EAL) schemes for assessing a loss of forced flow cooling during refueling operations. Dominion entered this issue into the corrective action program and implemented temporary corrective actions which included procedure changes to direct operators to the shutdown safety assessment checklists to determine representative RCS temperature increases in order to assess the initiating conditions for this situation.

The inspectors determined that the failure by Dominion to provide site specific criteria for operators to adequately implement the EALs for a loss of forced flow cooling during refueling was a performance deficiency that was

reasonably within their ability to foresee and prevent. The finding is more than minor because it is associated with the Procedure Quality attribute of the Emergency Planning Cornerstone and affected the cornerstone objective to ensure that Dominion is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with the IMC 0609, Appendix B, "Emergency Preparedness Significance Determination," the inspectors determined that this finding is of very low safety significance because the performance deficiency was an issue where two EAL initiating conditions (ICs) had been rendered ineffective such that an Unusual Event and an Alert would not be declared, or declared in a degraded manner for a loss of forced flow cooling during refueling. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, in that Dominion did not implement a CAP with a low threshold for identifying issues. Dominion's self-assessment for two previous NCVs regarding EAL deficiencies failed to identify the lack of specific criteria to assess the ICs for EALs UE1.2 and EA2.1 for a loss of forced cooling flow during refueling [P.1]. (Section 4OA5)

Inspection Report# : [2014003](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 : June 16, 2015



## Millstone 3

### 2Q/2015 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

##### **Failure to Manage Risk of RSST Testing**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(4) for the failure to properly assess and manage the risk of work in the switchyard during the Unit 3 refueling outage. The inspectors determined that Dominion incorrectly assumed the risk mitigation plans were sufficient to allow them to not have to take a penalty factor for off-site grid risk. Because Dominion did not consider the potential for the 15T breaker to open during the RSST leakage reactance testing or determine any mitigating actions to take in case of this possibility, they incorrectly classified the evolution as Yellow risk instead of Orange.

The inspectors determined that the failure to properly assess and manage risk is a performance deficiency which is more than minor because it would affect the Protection Against External Factors attribute of the Initiating Events cornerstone. The underlying issue that Dominion did not take adequate mitigating actions to reduce risk for has to do with the reliability of offsite power to the station. In addition, it is similar to Example 7.e from IMC 0612, Appendix E, "Examples of Minor Issues", which states that the failure to perform an adequate risk assessment when required to do so is more than minor if the overall elevated plant risk would put the plant into a higher licensee-established risk category. An adequate risk assessment would have assessed the plant risk as Orange, not Yellow. The inspectors evaluated the significance of the finding using IMC 0609 Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process." There is a note in this appendix which directs review of the issue if the licensee only uses qualitative analyses of plant configuration risk due to maintenance activities. The inspectors followed the guidance of this note and determined the issue was of very low safety significance in consultation with NRC management. The duration of the unplanned south bus outage was short (13 hours), and the station took additional risk mitigation actions after the event, including suspending all work in the switchyard and transformers and the control room briefed EOP 3501, Loss of All AC Power. The inspectors determined this issue had a cross cutting aspect in the area of Human Performance, Change Management, where managers maintain a clear focus on nuclear safety when implementing the change management process to ensure that significant unintended consequences are avoided. Specifically, the RSST testing performed during the outage was the initial performance of this specific test and all failure modes were not fully assessed prior to the test date. (H.3)

Inspection Report# : [2014005](#) (*pdf*)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

##### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).



The team determined that Dominion’s failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, “Significance Determination Process for Findings At-Power,” using Exhibit 1, “Initiating Events Screening Questions,” Section C, “Support System Initiators.” The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

## Mitigating Systems

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Identify Charging and Primary Closed Cooling Water Area Heater Transformers Equipment Environmental Qualification Non-Conformance**

The inspectors identified a Green, Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI associated with Dominion’s failure to promptly identify conditions adverse to quality associated with the Millstone Power Station Unit 3 CHS (Charging System) & CCP (Component Cooling Primary) area heaters which are required to support operability of the charging system when outside temperature is less than 17F, from September 17, 2014 to February 11, 2015. Dominion completed restoration of the ‘B’ train CHS & CCP area heaters on February 14, 2015 and has scheduled completion of the ‘A’ train heater restoration for April 16, 2015

This finding was determined to be more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance as safety function of the charging system was not lost based upon the capability of the nonconforming heaters to maintain charging area temperatures greater than 65F. Inspectors identified a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence associated with Dominion’s failure to adequately screen the condition adverse to quality upon discovery of heater failure and failure to evaluate heater maintenance history when making changes to heater preventive maintenance frequency. (H.8)

Inspection Report# : [2015001](#) (*pdf*)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Correct Multiple ‘A’ HVK Start and Runtime Failures**

Green: The inspectors identified a Green, NCV of 10 CFR 50, Appendix B, Criterion XVI associated with Dominion’s failure to promptly identify or correct conditions adverse to quality associated with the equipment

reliability of the Millstone Power Station Unit 3 'A' Control Building Chilled Water System (HVK) Chiller from September 26, 2014 to December 13, 2014. Specifically, the component was placed into service without establishing adequate corrective actions resulting in failures to start on 17 of 20 demands. Further, the component experienced run time failures due to a series of no less than six identified and corrected failure modes within the exposure window. Dominion has entered these concerns into their corrective action program CR560039 and CR566762.

This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance as there was no loss of system or function due to the functionality of the 'B' HVK Chiller train. Inspectors identified a cross-cutting aspect in the Human Performance cross-cutting area associated with Conservative Bias associated with Dominion's acceptance of multiple repetitive failures to start and failures to run. (H.14)

Inspection Report# : [2014005](#) (pdf)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Implement Standing Order Restrictions into the EOPs and AOPs for the Unit 3 TDAFW Pump Flow Control Valves**

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1, "Procedures," for the failure to accurately maintain the EOPs and Abnormal Operating Procedures (AOPs) by not including operating restrictions that had been promulgated as a temporary order (Standing Order (SO) 14-04) regarding the limitation of the closure sequence and rate for the Turbine-Driven Auxiliary Feedwater (TDAFW) pump flow control valves (3FWA\*HCV36A, B, C and D). Dominion's immediate corrective actions included approving a revision to the appropriate AOPs and EOPs to incorporate the throttling restrictions.

This finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and 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, Dominion did not incorporate operating restrictions on the throttling rate of the TDAFW pump flow control valves into the post-event procedures (AOPs and EOPs). In accordance with IMC 0609.04, "Initial Characterization of Findings," and Appendix A, Exhibit 2, "The Significance Determination Process for Findings at Power," the inspectors determined the finding is of very low safety significance (Green) because the performance deficiency involved a procedural deficiency but did not involve an actual loss of safety function, represent an actual loss of safety function of a single train for greater than TS allowed outage time, did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Resolution, in that Dominion did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance. Dominion determined that it was not necessary to incorporate the AFW throttling restrictions into the EOPs or AOPs. [P.3]

Inspection Report# : [2014005](#) (pdf)

**Significance:**  Dec 09, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Resolve Anomalous Data During Complex Troubleshooting of the Turbine Driven Auxiliary**

### Feedwater Pump Controls

The Team identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” for the failure to follow procedure MA-AA-103, Conduct of Troubleshooting, Revision 11 following the failure of the TDAFW pump to properly start on September 10, 2014, during quarterly surveillance testing. Specifically, between September 10 and September 13, 2014, Dominion failed to identify, review and address conflicting troubleshooting results for the governor shutdown relay (3CR) and the electrical overspeed relay (1CON) in the TDAFW control circuit by failing to compare troubleshooting result with the expected results. Dominion entered this issue into their corrective action program as condition report 567073. This finding was more than minor because if left uncorrected, the failure to address anomalous conditions or inconsistent data in accordance with procedural requirements could result in degraded or deficient conditions. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. These troubleshooting issues, given the actions taken by Dominion to replace electrical components and the governor and subsequent satisfactory surveillance testing and electrical circuit checks, had no impact on TDAFW pump functionality. The Team concluded that this finding had a cross-cutting aspect in the Human Performance, Teamwork area because individuals and work groups failed to communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. (H.4)

Inspection Report# : [2014013](#) (*pdf*)

**Significance:**  Dec 09, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Promptly Identify and Correct Adverse Conditions related to the Turbine Driven Auxiliary Feedwater Pump Governor to Control Valve Linkage**

The Team identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions” associated with the failure to identify and correct adverse conditions related to the TDAFW pump governor to control valve linkage which potentially could have affected the reliability of the pump. Specifically, previously unidentified cam-plate pivot bushing wear and non-optimal linkage setup allowed degradation of the cam-follower spherical bearing and potential linkage sluggishness and binding from February 4 to October 29, 2014, when the unit entered a refueling outage. Dominion addressed these linkage issues during the refueling outage and entered this issue into their corrective action program as condition report 563885.

This finding was more than minor because it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Leaving the control linkage misalignment issues uncorrected could have reduced the reliability of the TDAFW pump. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. The linkage issues had no impact on TDAFW pump functionality based on satisfactory surveillance test results. The Team determined that this issue had a cross-cutting aspect in the Human Performance cross-cutting area associated with Conservative Bias, in that Dominion failed to identify the potential importance of deficiencies in the control linkage configuration. (H.14)

Inspection Report# : [2014013](#) (*pdf*)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Correctly Implement Emergency Operating Procedures**

The NRC identified a Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1 “Procedures,” because the Millstone Unit 3 control room personnel did not implement Emergency Operating Procedures (EOP) in a timely manner and in accordance with EOP usage guidelines. Specifically, from approximately 0845 to 1438 on May 25, 2014, the licensed control room operators were effectively stopped on a transition step in ES-0.1, “Reactor Trip Response,” Step 14, which is a decision step requesting the verification of offsite power availability. However, EOP

rules of usage would have required a transition into ES-0.2, “Natural Circulation Cooldown.” Dominion entered this issue into the corrective action program under CR 551059 and CR 553970, and initiated an apparent cause evaluation. The team determined there was a performance deficiency, in that Millstone Unit 3 control room personnel did not properly implement and execute procedurally-required actions of the EOPs in a timely manner and in accordance with the EOP usage rules, during a loss of offsite power and plant trip event. The performance deficiency was determined to be more than minor because it is associated with the Human 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).

Additionally, the performance deficiency, if left uncorrected, would have the potential to lead to a more significant safety concern. The inspectors evaluated the finding using the Phase 1, “Initial Screening and Characterization of Findings,” worksheet in Attachment 4 to IMC 0609, “Significance Determination Process” and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance (Green) because it did not result in an actual loss of function, only delayed additional cooldown and boration activities that would have assisted in event mitigation given the plant conditions at the time. The team determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Procedure Adherence component, because Millstone Unit 3 licensed personnel did not implement EOPs in a timely manner and in accordance with the EOPUG [H.8] Inspection Report# : [2014011](#) (*pdf*)

**Significance:**  Jul 21, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

**Failure to Provide Adequate Maintenance Instructions for the Turbine Driven Auxiliary Feedwater Pump Governor Control Valve Linkage**

The inspectors identified a self-revealing Green NCV of TS 6.8.1, “Procedures and Programs,” when Dominion did not maintain an adequate maintenance procedure to ensure reliable performance of the TDAFW system. Specifically, TDAFW properly started following the August 9, 2013, reactor trip, but was subsequently shut down after observed flow and pressure oscillations. Dominion staff discovered the control valve linkage misaligned due to a loose cam follower bearing retaining nut. As part of the repair, Dominion implemented a revision to the C MP 711 procedure to require application of thread-locker to the cam follower bearing retaining nut during reassembly. Additionally, Dominion entered this issue in their CAP as CR 522896.

The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the maintenance procedure did not provide sufficient written instructions to ensure adequate torque of the retaining nut and thereby reliable performance of the TDAFW system three months after reassembly. The finding was evaluated using IMC 0609, Attachment 4 and Appendix A, Exhibit 2.A, and determined to be of very low safety significance (Green) since it was not associated with a design or qualification deficiency, not a loss of system/function, and not an actual loss of its TS function. This finding had a cross-cutting aspect in the area of Human Performance, Documentation, in that licensee organizations are expected to create and maintain complete, accurate, and up-to-date documentation. Specifically, Dominion did not maintain a comprehensive, high-quality maintenance procedure that was thorough to assure assembly of critical TDAFW components. [H.7]

Inspection Report# : [2014008](#) (*pdf*)

**Significance:** **W** Jul 21, 2014

Identified By: NRC

Item Type: VIO Violation

#### **Failure to Identify and Promptly Correct a Condition Adverse to Quality**

The inspection team identified a self-revealing apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," involving Dominion's failure to promptly identify and correct a condition adverse to quality. Specifically, the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump was operated from May 2013 through February 2014 in an adverse configuration due to the installation of an incorrect cam follower bearing. As a result of this adverse configuration, the pump experienced three overspeed trips during the subject timeframe. As a consequence, Dominion violated Technical Specification (TS) 3.7.1.2, since TDAFW was determined to be either failed or unreliable for greater than the TS allowed outage time. Dominion installed the correct cam follower, entered this issue in their corrective action program (CAP) as condition report (CR) 538743 and CR 531536, and completed a root cause evaluation (RCE) (RCE 001111).

The issue was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, operation of the TDAFW pump with the incorrect spherical bearing reduced the reliability of a risksignificant, safety-related mitigating system. The issue was evaluated in accordance with IMC 0609, Appendix A, Exhibit 2, and was determined to require a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its TS allowed outage time. The detailed risk evaluation concluded that the increase in core damage frequency of this issue is in the mid to high E-6 range, or White (low to moderate safety significance). The dominant core damage sequences involved fire scenarios resulting in control room abandonment that rely upon the TDAFW pump as the primary source of make-up to the steam generators and decay heat removal. This finding had a cross-cutting aspect in Human Performance, Consistent Process, where individuals use a consistent, systematic approach to make decisions and risk insights are incorporated as appropriate. Specifically, Dominion did not implement consistent, systematic approaches to resolve the condition as evidenced by their inadequate and inconsistent use of CAP and troubleshooting. [H.13]

Inspection Report# : [2014008](#) (pdf)

## **Barrier Integrity**

**Significance:** **G** Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Review Additional Failures Against the SLCRS (a)(1) Monitoring Plan**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(1) for the failure to determine if the goals or corrective actions for the (a)(1) monitoring plan for the SLCRS system should be adjusted following an additional failure of the auxiliary building ventilation system in July 2014. ER-AA-MRL-100, Implementing Maintenance Rule, states that when a goal is not met the system engineer shall obtain expert panel review and approval of the goal not met and appropriateness of the new goal. This had not happened at the conclusion of the inspection period. Dominion entered the issue into the corrective action program as CR 528856 and 554215.

The inspectors determined that not evaluating the SLCRS (a)(1) monitoring plan after the July 2014 failure as required by 10 CFR 50.65 was a performance deficiency which is more than minor because it would affect the Barrier Integrity cornerstone SSC and barrier performance attribute due to the damper failures. Maintenance rule failures of a system in (a)(1) monitoring status need to be evaluated for additional failure mechanisms not covered by the existing monitoring plan. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, SDP for



Findings at Power and screened it to Green using Exhibit 3, section B because the finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

The inspectors determined this issue had a cross cutting aspect in the area of Problem Identification and Resolution, Resolution, where the organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. As stated in NUREG 2165 PI.3 Example 2, “Deferrals of corrective actions are minimized; when required, due dates are extended using an established process that appropriately considers safety significance.” PI-AA-200, Corrective Action, requires an assessment of risk and vulnerabilities associated with extending corrective actions. Dominion did not assess the risk of extending the MRE as it related to the implementation of the maintenance rule and improperly allowed 6 extensions of the assignment. (P.3)

Inspection Report# : [2014005](#) (*pdf*)

**Significance:** G Oct 04, 2013

Identified By: NRC

Item Type: VIO Violation

**(VIO 05000423/2013004-01, Inadequate Corrective Actions to Restore Degraded Unit 3 Main Feedwater Isolation Valves**

Green. The inspectors identified a cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Dominion’s continued failure to take timely and effective corrective actions for conditions adverse to quality involving the degradation of the closing capability of four Unit 3 main feedwater isolation valves. Dominion had deferred correcting this condition over a period of six years (three refueling outages) which the inspectors noted in NCV 05000423/2012010-01, a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action.” Dominion has since deferred repairs from the April 2013 refueling outage until the October 2014 outage. The violation is cited because Dominion has failed to restore compliance or demonstrate objective evidence of plans to restore compliance at the first opportunity in a reasonable period of time following initial identification in 2007 and documentation in 2012 NRC inspection reports. Dominion entered the issue into their CAP as CR507299 and plans to modify the valves in the 2014 refueling outage.

The inspectors determined this issue was more than minor because it is similar to the more than minor examples, 4.f and 4.g of IMC 0612, Appendix E, “Examples of Minor Issues.” Specifically, Dominion did not correct a condition adverse to quality in a timely manner and resulted in a situation that impacted the operability of the feedwater isolation valves. Additionally, the finding is more than minor because it is associated with the design control attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone’s 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) because the issue did not represent an actual open pathway in the physical integrity of the reactor containment. In the event of a ruptured feedwater line, the train ‘A’ main feedwater regulating valves and bypass valves would remain capable of closing to isolate feedwater flow.

This finding had a cross-cutting aspect in the Human Performance area, Resources component, because Dominion did not maintain long term plant safety by minimizing long-standing equipment issues and ensuring maintenance and engineering backlogs which are low enough to support safety. Specifically, Dominion deferred the feedwater isolation valve replacement project from 3RFO15 to 3RFO16 because the design change could not be issued to support online work on the project required prior to the outage. Additionally, there were a number of outstanding technical issues for the design change that were not resolved in time despite the condition existing since 2007 (H.2(a)). (Section 1R15)

Inspection Report# : [2013004](#) (*pdf*)



## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 : August 07, 2015

## Millstone 3

### 3Q/2015 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

##### **Failure to Manage Risk of RSST Testing**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(4) for the failure to properly assess and manage the risk of work in the switchyard during the Unit 3 refueling outage. The inspectors determined that Dominion incorrectly assumed the risk mitigation plans were sufficient to allow them to not have to take a penalty factor for off-site grid risk. Because Dominion did not consider the potential for the 15T breaker to open during the RSST leakage reactance testing or determine any mitigating actions to take in case of this possibility, they incorrectly classified the evolution as Yellow risk instead of Orange.

The inspectors determined that the failure to properly assess and manage risk is a performance deficiency which is more than minor because it would affect the Protection Against External Factors attribute of the Initiating Events cornerstone. The underlying issue that Dominion did not take adequate mitigating actions to reduce risk for has to do with the reliability of offsite power to the station. In addition, it is similar to Example 7.e from IMC 0612, Appendix E, "Examples of Minor Issues", which states that the failure to perform an adequate risk assessment when required to do so is more than minor if the overall elevated plant risk would put the plant into a higher licensee-established risk category. An adequate risk assessment would have assessed the plant risk as Orange, not Yellow. The inspectors evaluated the significance of the finding using IMC 0609 Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process." There is a note in this appendix which directs review of the issue if the licensee only uses qualitative analyses of plant configuration risk due to maintenance activities. The inspectors followed the guidance of this note and determined the issue was of very low safety significance in consultation with NRC management. The duration of the unplanned south bus outage was short (13 hours), and the station took additional risk mitigation actions after the event, including suspending all work in the switchyard and transformers and the control room briefed EOP 3501, Loss of All AC Power. The inspectors determined this issue had a cross cutting aspect in the area of Human Performance, Change Management, where managers maintain a clear focus on nuclear safety when implementing the change management process to ensure that significant unintended consequences are avoided. Specifically, the RSST testing performed during the outage was the initial performance of this specific test and all failure modes were not fully assessed prior to the test date. (H.3)

Inspection Report# : [2014005](#) (*pdf*)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

##### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion’s failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, “Significance Determination Process for Findings At-Power,” using Exhibit 1, “Initiating Events Screening Questions,” Section C, “Support System Initiators.” The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

## Mitigating Systems

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Identify Charging and Primary Closed Cooling Water Area Heater Transformers Equipment Environmental Qualification Non-Conformance**

The inspectors identified a Green, Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI associated with Dominion’s failure to promptly identify conditions adverse to quality associated with the Millstone Power Station Unit 3 CHS (Charging System) & CCP (Component Cooling Primary) area heaters which are required to support operability of the charging system when outside temperature is less than 17F, from September 17, 2014 to February 11, 2015. Dominion completed restoration of the ‘B’ train CHS & CCP area heaters on February 14, 2015 and has scheduled completion of the ‘A’ train heater restoration for April 16, 2015

This finding was determined to be more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance as safety function of the charging system was not lost based upon the capability of the nonconforming heaters to maintain charging area temperatures greater than 65F. Inspectors identified a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence associated with Dominion’s failure to adequately screen the condition adverse to quality upon discovery of heater failure and failure to evaluate heater maintenance history when making changes to heater preventive maintenance frequency. (H.8)

Inspection Report# : [2015001](#) (*pdf*)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation


### **Failure to Correct Multiple ‘A’ HVK Start and Runtime Failures**

Green: The inspectors identified a Green, NCV of 10 CFR 50, Appendix B, Criterion XVI associated with Dominion’s failure to promptly identify or correct conditions adverse to quality associated with the equipment

reliability of the Millstone Power Station Unit 3 'A' Control Building Chilled Water System (HVK) Chiller from September 26, 2014 to December 13, 2014. Specifically, the component was placed into service without establishing adequate corrective actions resulting in failures to start on 17 of 20 demands. Further, the component experienced run time failures due to a series of no less than six identified and corrected failure modes within the exposure window. Dominion has entered these concerns into their corrective action program CR560039 and CR566762.

This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance as there was no loss of system or function due to the functionality of the 'B' HVK Chiller train. Inspectors identified a cross-cutting aspect in the Human Performance cross-cutting area associated with Conservative Bias associated with Dominion's acceptance of multiple repetitive failures to start and failures to run. (H.14)

Inspection Report# : [2014005](#) (pdf)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Implement Standing Order Restrictions into the EOPs and AOPs for the Unit 3 TDAFW Pump Flow Control Valves**

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1, "Procedures," for the failure to accurately maintain the EOPs and Abnormal Operating Procedures (AOPs) by not including operating restrictions that had been promulgated as a temporary order (Standing Order (SO) 14-04) regarding the limitation of the closure sequence and rate for the Turbine-Driven Auxiliary Feedwater (TDAFW) pump flow control valves (3FWA\*HCV36A, B, C and D). Dominion's immediate corrective actions included approving a revision to the appropriate AOPs and EOPs to incorporate the throttling restrictions.

This finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and 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, Dominion did not incorporate operating restrictions on the throttling rate of the TDAFW pump flow control valves into the post-event procedures (AOPs and EOPs). In accordance with IMC 0609.04, "Initial Characterization of Findings," and Appendix A, Exhibit 2, "The Significance Determination Process for Findings at Power," the inspectors determined the finding is of very low safety significance (Green) because the performance deficiency involved a procedural deficiency but did not involve an actual loss of safety function, represent an actual loss of safety function of a single train for greater than TS allowed outage time, did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event, and did not represent an actual loss of function of a non-TS train of equipment designated as high safety significant. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Resolution, in that Dominion did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance. Dominion determined that it was not necessary to incorporate the AFW throttling restrictions into the EOPs or AOPs. [P.3]

Inspection Report# : [2014005](#) (pdf)

**Significance:**  Dec 09, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Resolve Anomalous Data During Complex Troubleshooting of the Turbine Driven Auxiliary**

**Feedwater Pump Controls**

The Team identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” for the failure to follow procedure MA-AA-103, Conduct of Troubleshooting, Revision 11 following the failure of the TDAFW pump to properly start on September 10, 2014, during quarterly surveillance testing. Specifically, between September 10 and September 13, 2014, Dominion failed to identify, review and address conflicting troubleshooting results for the governor shutdown relay (3CR) and the electrical overspeed relay (1CON) in the TDAFW control circuit by failing to compare troubleshooting result with the expected results. Dominion entered this issue into their corrective action program as condition report 567073. This finding was more than minor because if left uncorrected, the failure to address anomalous conditions or inconsistent data in accordance with procedural requirements could result in degraded or deficient conditions. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. These troubleshooting issues, given the actions taken by Dominion to replace electrical components and the governor and subsequent satisfactory surveillance testing and electrical circuit checks, had no impact on TDAFW pump functionality. The Team concluded that this finding had a cross-cutting aspect in the Human Performance, Teamwork area because individuals and work groups failed to communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. (H.4)

Inspection Report# : [2014013](#) (*pdf*)

**Significance:**  Dec 09, 2014

Identified By: NRC


Item Type: NCV Non-Cited Violation

**Failure to Promptly Identify and Correct Adverse Conditions related to the Turbine Driven Auxiliary Feedwater Pump Governor to Control Valve Linkage**

The Team identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions” associated with the failure to identify and correct adverse conditions related to the TDAFW pump governor to control valve linkage which potentially could have affected the reliability of the pump. Specifically, previously unidentified cam-plate pivot bushing wear and non-optimal linkage setup allowed degradation of the cam-follower spherical bearing and potential linkage sluggishness and binding from February 4 to October 29, 2014, when the unit entered a refueling outage. Dominion addressed these linkage issues during the refueling outage and entered this issue into their corrective action program as condition report 563885.

This finding was more than minor because it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Leaving the control linkage misalignment issues uncorrected could have reduced the reliability of the TDAFW pump. This issue was of very low safety significance because there was no loss of TDAFW operability or functionality. The linkage issues had no impact on TDAFW pump functionality based on satisfactory surveillance test results. The Team determined that this issue had a cross-cutting aspect in the Human Performance cross-cutting area associated with Conservative Bias, in that Dominion failed to identify the potential importance of deficiencies in the control linkage configuration. (H.14)

Inspection Report# : [2014013](#) (*pdf*)

**Significance:**  Jul 21, 2014

Identified By: NRC

Item Type: VIO Violation

**Failure to Identify and Promptly Correct a Condition Adverse to Quality**

The inspection team identified a self-revealing apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, “Corrective Action,” involving Dominion’s failure to promptly identify and correct a condition adverse to quality. Specifically, the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump was operated from May 2013 through February 2014 in an adverse configuration due to the installation of an incorrect cam follower bearing. As a result of this adverse configuration, the pump experienced three overspeed trips during the

subject timeframe. As a consequence, Dominion violated Technical Specification (TS) 3.7.1.2, since TDAFW was determined to be either failed or unreliable for greater than the TS allowed outage time. Dominion installed the correct cam follower, entered this issue in their corrective action program (CAP) as condition report (CR) 538743 and CR 531536, and completed a root cause evaluation (RCE) (RCE 001111).

The issue was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, operation of the TDAFW pump with the incorrect spherical bearing reduced the reliability of a risksignificant, safety-related mitigating system. The issue was evaluated in accordance with IMC 0609, Appendix A, Exhibit 2, and was determined to require a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its TS allowed outage time. The detailed risk evaluation concluded that the increase in core damage frequency of this issue is in the mid to high E-6 range, or White (low to moderate safety significance). The dominant core damage sequences involved fire scenarios resulting in control room abandonment that rely upon the TDAFW pump as the primary source of make-up to the steam generators and decay heat removal. This finding had a cross-cutting aspect in Human Performance, Consistent Process, where individuals use a consistent, systematic approach to make decisions and risk insights are incorporated as appropriate. Specifically, Dominion did not implement consistent, systematic approaches to resolve the condition as evidenced by their inadequate and inconsistent use of CAP and troubleshooting. [H.13]

Inspection Report# : [2014008](#) (pdf)

## Barrier Integrity

**Significance:** G Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Review Additional Failures Against the SLCRS (a)(1) Monitoring Plan**

The inspectors identified a Green NCV of 10 CFR 50.65 (a)(1) for the failure to determine if the goals or corrective actions for the (a)(1) monitoring plan for the SLCRS system should be adjusted following an additional failure of the auxiliary building ventilation system in July 2014. ER-AA-MRL-100, Implementing Maintenance Rule, states that when a goal is not met the system engineer shall obtain expert panel review and approval of the goal not met and appropriateness of the new goal. This had not happened at the conclusion of the inspection period. Dominion entered the issue into the corrective action program as CR 528856 and 554215.

The inspectors determined that not evaluating the SLCRS (a)(1) monitoring plan after the July 2014 failure as required by 10 CFR 50.65 was a performance deficiency which is more than minor because it would affect the Barrier Integrity cornerstone SSC and barrier performance attribute due to the damper failures. Maintenance rule failures of a system in (a)(1) monitoring status need to be evaluated for additional failure mechanisms not covered by the existing monitoring plan. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, SDP for Findings at Power and screened it to Green using Exhibit 3, section B because the finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

The inspectors determined this issue had a cross cutting aspect in the area of Problem Identification and Resolution, Resolution, where the organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. As stated in NUREG 2165 PI.3 Example 2, "Deferrals of corrective actions are minimized; when required, due dates are extended using an established process that appropriately considers safety significance." PI-AA-200, Corrective Action, requires an assessment of risk and vulnerabilities associated with extending corrective actions. Dominion did not assess the risk of extending the MRE as it related to the implementation of the maintenance rule and improperly allowed 6 extensions of the assignment. (P.3)



Inspection Report# : [2014005](#) (pdf)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Security**

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## **Miscellaneous**

Last modified : December 15, 2015

## Millstone 3

### 4Q/2015 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

##### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

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#### Mitigating Systems

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

##### **Change of Pump Reference Values Contrary to ASME OM**

The inspectors identified a Green NCV of Millstone Unit 3 Technical Specification (TS) Surveillance Requirement 4.0.5 because Dominion did not implement the Inservice Testing (IST) Program in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code of Record, 2001 through 2003 incorporated addenda. On July 18, 2015, Dominion changed the reference values of the 'B' control building air conditioning booster pump, 3SWP\*P2B, prior to determining the cause of the condition which resulted in the pump performing in the Action Range (ISTB-6200(b)) in April 2015.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of

the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The reliability of 3SWP\*P2B was challenged based upon Dominion's change in the pump's reference values contrary to the ASME OM code of record for Millstone Unit 3 which could result in the degradation of the equipment remaining undetected. The finding screened to be of very low safety significance (Green) because the safety function of 3SWP\*P2B was not lost based on analysis of design basis flow requirements. The inspectors determined the finding has a cross-cutting aspect in Problem Identification and Resolution, Evaluation, in that the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance. Specifically, Dominion's analysis of the April 2015 pump failures was not thorough enough to understand a new potential failure mode (impeller movement) and how it may impact system performance.

Inspection Report# : [2015003](#) (pdf)

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Identify Charging and Primary Closed Cooling Water Area Heater Transformers Equipment Environmental Qualification Non-Conformance**

The inspectors identified a Green, Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI associated with Dominion's failure to promptly identify conditions adverse to quality associated with the Millstone Power Station Unit 3 CHS (Charging System) & CCP (Component Cooling Primary) area heaters which are required to support operability of the charging system when outside temperature is less than 17F, from September 17, 2014 to February 11, 2015. Dominion completed restoration of the 'B' train CHS & CCP area heaters on February 14, 2015 and has scheduled completion of the 'A' train heater restoration for April 16, 2015

This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Reactor Safety – Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance as safety function of the charging system was not lost based upon the capability of the nonconforming heaters to maintain charging area temperatures greater than 65F. Inspectors identified a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence associated with Dominion's failure to adequately screen the condition adverse to quality upon discovery of heater failure and failure to evaluate heater maintenance history when making changes to heater preventive maintenance frequency. (H.8)

Inspection Report# : [2015001](#) (pdf)

## Barrier Integrity

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate Procedural Direction to Mitigate a LOCA and Failure of an RSS Heat Exchanger Tube**

The inspectors identified a Green NCV of Millstone Unit 3 TS 6.8.1, as specified by Regulatory Guide (RG) 1.33, associated with Dominion's failure to implement adequate procedures to address a hypothetical large break loss of

coolant accident (LBLOCA) inside containment with a failure of a recirculation spray system (RSS) heat exchanger tube resulting in a loss of coolant accident (LOCA) that bypasses the containment barrier. Dominion did not provide adequate procedural direction or training to the operators for the control of the emergency core cooling systems (ECCS) during this hypothetical event in June of 2015. Dominion entered the issue into their corrective action program as condition report (CR) 1008205.

The finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was screened to be of very low safety significance (Green) as the deficiency did not represent an actual open pathway in the physical integrity of reactor containment in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment." The inspectors identified a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance.

Inspection Report# : [2015003](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 : March 30, 2016

## Millstone 3

# 1Q/2016 Plant Inspection Findings

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## Initiating Events

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

### **Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016.

Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : [2016001](#) (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure of Feedwater Isolation Valve to Close Due to Electrical Jumper Being Installed**

The inspectors identified a self-revealing Green NCV of TS 3.3.2 for Dominion's failure to meet the operability requirements for the 'C' feedwater isolation valve (FWIV) testing and valve limit testing work associated with Design Change MP3-09-01030, an electrical jumper was left installed in the 'C' FWIV (3FWS\*CTV41C) control circuit. This prevented both channels of the engineered safety features actuation system (ESFAS) signal from closing the 'C' FWIV when called upon during an actual feedwater isolation actuation associated with the reactor trip on January 25, 2016. The installed jumper rendered the 'C' FWIV inoperable for over one year. Dominion's immediate corrective actions included restoring the channels for 3FWS\*CTV41C to operable status by removing the electrical jumper, inspecting the other FWIV control circuits for electrical jumpers, and retesting all of the FWIVs for proper operation.

The performance deficiency was determined to be more than minor because it adversely affected the configuration control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to remove an electrical jumper on the 'C' FWIV during the implementation of a design change led to the failure of the valve to perform its closure safety function when called upon. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual loss of safety function of the system as there was a redundant means of feedwater isolation. The finding has a cross-cutting aspect in Human Performance, Work Management, because Dominion did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, maintenance and operations personnel did not follow the work management procedure for generating a new work order when the additional electrical jumper was installed.

Inspection Report# : [2016001](#) (*pdf*)

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Change of Pump Reference Values Contrary to ASME OM**

The inspectors identified a Green NCV of Millstone Unit 3 Technical Specification (TS) Surveillance Requirement 4.0.5 because Dominion did not implement the Inservice Testing (IST) Program in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code of Record, 2001 through 2003



incorporated addenda. On July 18, 2015, Dominion changed the reference values of the 'B' control building air conditioning booster pump, 3SWP\*P2B, prior to determining the cause of the condition which resulted in the pump performing in the Action Range (ISTB-6200(b)) in April 2015.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The reliability of 3SWP\*P2B was challenged based upon Dominion's change in the pump's reference values contrary to the ASME OM code of record for Millstone Unit 3 which could result in the degradation of the equipment remaining undetected. The finding screened to be of very low safety significance (Green) because the safety function of 3SWP\*P2B was not lost based on analysis of design basis flow requirements. The inspectors determined the finding has a cross-cutting aspect in Problem Identification and Resolution, Evaluation, in that the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance. Specifically, Dominion's analysis of the April 2015 pump failures was not thorough enough to understand a new potential failure mode (impeller movement) and how it may impact system performance.

Inspection Report# : [2015003](#) (*pdf*)

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## Barrier Integrity

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Inadequate Procedural Direction to Mitigate a LOCA and Failure of an RSS Heat Exchanger Tube**

The inspectors identified a Green NCV of Millstone Unit 3 TS 6.8.1, as specified by Regulatory Guide (RG) 1.33, associated with Dominion's failure to implement adequate procedures to address a hypothetical large break loss of coolant accident (LBLOCA) inside containment with a failure of a recirculation spray system (RSS) heat exchanger tube resulting in a loss of coolant accident (LOCA) that bypasses the containment barrier.

Dominion did not provide adequate procedural direction or training to the operators for the control of the emergency core cooling systems (ECCS) during this hypothetical event in June of 2015. Dominion entered the issue into their corrective action program as condition report (CR) 1008205.

The finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was screened to be of very low safety significance (Green) as the deficiency did not represent an actual open pathway in the physical integrity of reactor containment in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment." The inspectors identified a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance.

Inspection Report# : [2015003](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 : July 11, 2016

## Millstone 3

### 2Q/2016 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

##### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

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#### Mitigating Systems

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

##### **Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016.

Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, “Aspects within the Cross-Cutting Areas,” dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : [2016001](#) (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure of Feedwater Isolation Valve to Close Due to Electrical Jumper Being Installed**

The inspectors identified a self-revealing Green NCV of TS 3.3.2 for Dominion’s failure to meet the operability requirements for the ‘C’ feedwater isolation valve (FWIV) testing and valve limit testing work associated with Design Change MP3-09-01030, an electrical jumper was left installed in the ‘C’ FWIV (3FWS\*CTV41C) control circuit. This prevented both channels of the engineered safety features actuation system (ESFAS) signal from closing the ‘C’ FWIV when called upon during an actual feedwater isolation actuation associated with the reactor trip on January 25, 2016. The installed jumper rendered the ‘C’ FWIV inoperable for over one year. Dominion’s immediate corrective actions included restoring the channels for 3FWS\*CTV41C to operable status by removing the electrical jumper, inspecting the other FWIV control circuits for electrical jumpers, and retesting all of the FWIVs for proper operation.

The performance deficiency was determined to be more than minor because it adversely affected the configuration control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to remove an electrical jumper on the ‘C’ FWIV during the implementation of a design change led to the failure of the valve to perform its closure safety function when called upon. The finding was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” and determined to be of very low safety significance (Green) since it did not represent an actual loss of safety function of the system as there was a redundant means of feedwater isolation. The finding has a cross-cutting aspect in Human Performance, Work Management, because Dominion did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, maintenance and operations personnel did not follow the work management procedure for generating a new work order when the additional electrical jumper was installed. Inspection Report# : [2016001](#) (*pdf*)

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Change of Pump Reference Values Contrary to ASME OM**

The inspectors identified a Green NCV of Millstone Unit 3 Technical Specification (TS) Surveillance Requirement 4.0.5 because Dominion did not implement the Inservice Testing (IST) Program in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code of Record, 2001 through 2003

incorporated addenda. On July 18, 2015, Dominion changed the reference values of the ‘B’ control building air conditioning booster pump, 3SWP\*P2B, prior to determining the cause of the condition which resulted in the pump performing in the Action Range (ISTB-6200(b)) in April 2015.

This finding was more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The reliability of 3SWP\*P2B was challenged based upon Dominion’s change in the pump’s reference values contrary to the ASME OM code of record for Millstone Unit 3 which could result in the degradation of the equipment remaining undetected. The finding screened to be of very low safety significance (Green) because the safety function of 3SWP\*P2B was not lost based on analysis of design basis flow requirements. The inspectors determined the finding has a cross-cutting aspect in Problem Identification and Resolution, Evaluation, in that the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance. Specifically, Dominion’s analysis of the April 2015 pump failures was not thorough enough to understand a new potential failure mode (impeller movement) and how it may impact system performance.

Inspection Report# : [2015003](#) (*pdf*)

## Barrier Integrity

**Significance:**  Jun 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Secondary Containment Inoperability Due to Inadequate Procedures**

The inspectors identified a self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” because Dominion did not develop a Unit 3 Supplementary Leak Collection and Release System (SLCRS) damper preventative maintenance procedure that was adequate to prevent the inoperability of the system. Specifically, deficiencies in maintenance procedure SP 3614I.3A, “Supplementary Leak Collection and Release System Boundary Isolation Damper Test,” as well as the SLCRS damper monitoring program and preventative maintenance strategy, led to both trains of the Unit 3 SLCRS failing their respective surveillance tests resulting in the inoperability of secondary containment. After the issue was identified, Dominion entered the condition into their CAP (CR1033408), declared the secondary containment inoperable until the plant entered a mode of tech Spec non-applicability, and conducted walkdowns and repairs to the system to restore it to compliance.

This performance deficiency was considered to be more than minor because it adversely affected the SSC and barrier performance attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, inadequate maintenance of the SLCRS system led to a system differential pressure during operation that was not adequate to meet its design basis surveillance requirement and thus rendered the system inoperable. Additionally, the performance deficiency was similar to IMC 0612, Appendix E minor example 2.a. The finding was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” and determined to be of very low safety significance (Green) since it only represented a degradation of the radiological barrier function provided for the auxiliary building. The finding is related to the cross-cutting aspect of Human Performance – Design Margins, because Dominion did not operate and maintain equipment within design margins. Specifically, Dominion did not appropriately monitor and maintain the SLCRS system in such a way that declining damper performance trends were identified and prevented prior to the inoperability of the system.

Inspection Report# : [2016002](#) (pdf)

**Significance:** G Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate Procedural Direction to Mitigate a LOCA and Failure of an RSS Heat Exchanger Tube**

The inspectors identified a Green NCV of Millstone Unit 3 TS 6.8.1, as specified by Regulatory Guide (RG) 1.33, associated with Dominion’s failure to implement adequate procedures to address a hypothetical large break loss of coolant accident (LBLOCA) inside containment with a failure of a recirculation spray system (RSS) heat exchanger tube resulting in a loss of coolant accident (LOCA) that bypasses the containment barrier.

Dominion did not provide adequate procedural direction or training to the operators for the control of the emergency core cooling systems (ECCS) during this hypothetical event in June of 2015. Dominion entered the issue into their corrective action program as condition report (CR) 1008205.

The finding was more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, as it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was screened to be of very low safety significance (Green) as the deficiency did not represent an actual open pathway in the physical integrity of reactor containment in accordance with IMC 0609, “Significance Determination Process,” Attachment 4, “Initial Characterization of Findings,” and IMC 0609, Appendix A, Exhibit 3, “Barrier integrity Screening Questions,” Section B, “Reactor Containment.” The inspectors identified a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance.

Inspection Report# : [2015003](#) (pdf)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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 : August 29, 2016

## Millstone 3

### 3Q/2016 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Scope Safety Related Acoustic Valve Monitoring System into the Maintenance Rule**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.65(b)(1), for Dominion's failure to include the safety-related Unit 2 Pressurizer Safety Valve, Acoustic Valve Monitoring System (AVMS) SSC within the scope of the maintenance rule program. Specifically, Dominion removed the Millstone Unit 2 AVMS, which is required to remain functional during and following a design bases event to provide indication to operators in the control room of significant abnormal degradation of the reactor coolant pressure boundary and monitor for loss of coolant due to an open safety relief valve, from the scope of the maintenance rule monitoring program. Dominion has documented this condition in their CAP as CR1049493.

The inspectors determined that the finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, Dominion's removal of AVMS from maintenance rule performance and condition monitoring and the failures observed have resulted in the complete loss of availability and reliability of each channel of AVMS such that they cannot perform their intended function. The finding was determined to be of very low safety significance (Green) because the conditions associated with the most applicable design basis event are bound by the small break loss of coolant accident (LOCA) analysis and did not affect other systems used to mitigate a LOCA. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence, in that Millstone Maintenance Rule Expert Panel (MREP) members did not follow the Dominion maintenance rule program implementing procedure, ER-AA-MRL-100, which provides guidance for scoping systems into the maintenance rule.

Inspection Report# : [2016003](#) (*pdf*)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The

team performed a risk screening in accordance with IMC 0609, Appendix A, “Significance Determination Process for Findings At-Power,” using Exhibit 1, “Initiating Events Screening Questions,” Section C, “Support System Initiators.” The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Review Standing Orders**

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1.a, for Dominion’s failure to implement procedures as required by Regulatory Guide 1.33, Revision 2, Appendix A.1, “Administrative Procedures”, during the performance of watch turnover. This resulted in multiple operators across multiple crews in both Unit 2 and 3 standing watch without performing a review of the applicable standing orders for up to 4 months from March to July 2016. Dominion entered the condition in their corrective action program (CAP) as condition report (CR)1042287.

The inspectors determined that the finding was more than minor because if left uncorrected the performance deficiency could lead to a more significant event. Specifically, the operators did not review TS amendments, emergency action level classifications, emergency operating procedures, and plant computer issues impacting the plant prior to taking watch. Without reviewing the standing orders to understand the information contained within, operators could potentially take improper actions to control the plant during evolutions and abnormal conditions. The finding was determined to be of very low safety significance (Green) because it did not affect design or qualification of a mitigating structure, system, and component (SSC), did not represent a loss of system function, and did not involve external event mitigation systems. The inspectors determined that the finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Field Presence, where leaders are commonly seen in the work areas of the plant observing, coaching, and reinforcing standards and expectations. Specifically, Dominion leadership observations in the control room or management review of monthly standing order audits could have discovered the deviation from standards and expectations.

Inspection Report# : [2016003](#) (*pdf*)

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Implement Corrective Actions for Chronic Leakage at Residual Heat Removal Heat Exchanger Bottom Head Flanges**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Dominion’s failure to correct conditions adverse to quality. Specifically, since 1985 Dominion has not corrected persistent leakage of borated water through the bottom head flanges of the Millstone Unit 3 RHS heat exchangers that is causing accumulating deposits of boric acid including discolored brown and black crystalized and liquid boric acid wastage. Dominion has scheduled repair of the ‘A’ RHS heat exchanger for refuel

outage 3R18 in 2017 and 'B' for 3R19 in 2019. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because if left uncorrected, this performance deficiency has the potential to lead to a more significant safety concern based upon Dominion's failure to correct persistent boric acid leakage with evidence of rust formation and failure to identify the source of the rust and/or bound total lifetime material loss and corrosion of internal components to ensure operability. Specifically, if left uncorrected the availability, reliability, and capability of both trains of RHS has potential to be adversely impacted due to the potential for failure of internal heat exchanger components causing a loss of integrity, internal blockage, or interfacing and/or external loss of coolant. In accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions", Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), because the finding did not represent an actual failure of a system, function, or train of equipment and did not involve equipment specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Work Management, because the organization failed to implement the process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, Dominion continued to defer and reschedule corrective action for repair of the flange connections.

Inspection Report# : [2016009](#) (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

**Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : [2016001](#) (pdf)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure of Feedwater Isolation Valve to Close Due to Electrical Jumper Being Installed**

The inspectors identified a self-revealing Green NCV of TS 3.3.2 for Dominion's failure to meet the operability requirements for the 'C' feedwater isolation valve (FWIV) testing and valve limit testing work associated with Design Change MP3-09-01030, an electrical jumper was left installed in the 'C' FWIV (3FWS\*CTV41C) control circuit. This prevented both channels of the engineered safety features actuation system (ESFAS) signal from closing the 'C' FWIV when called upon during an actual feedwater isolation actuation associated with the reactor trip on January 25, 2016. The installed jumper rendered the 'C' FWIV inoperable for over one year. Dominion's immediate corrective actions included restoring the channels for 3FWS\*CTV41C to operable status by removing the electrical jumper, inspecting the other FWIV control circuits for electrical jumpers, and retesting all of the FWIVs for proper operation.

The performance deficiency was determined to be more than minor because it adversely affected the configuration control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to remove an electrical jumper on the 'C' FWIV during the implementation of a design change led to the failure of the valve to perform its closure safety function when called upon. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual loss of safety function of the system as there was a redundant means of feedwater isolation. The finding has a cross-cutting aspect in Human Performance, Work Management, because Dominion did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, maintenance and operations personnel did not follow the work management procedure for generating a new work order when the additional electrical jumper was installed. Inspection Report# : [2016001](#) (pdf)

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Change of Pump Reference Values Contrary to ASME OM**

The inspectors identified a Green NCV of Millstone Unit 3 Technical Specification (TS) Surveillance Requirement 4.0.5 because Dominion did not implement the Inservice Testing (IST) Program in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code of Record, 2001 through 2003 incorporated addenda. On July 18, 2015, Dominion changed the reference values of the 'B' control building air conditioning booster pump, 3SWP\*P2B, prior to determining the cause of the condition which resulted in the pump performing in the Action Range (ISTB-6200(b)) in April 2015.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The reliability of 3SWP\*P2B was challenged based upon Dominion's change in the pump's reference values contrary to the ASME OM code of record for Millstone Unit 3 which could result in the degradation of the equipment remaining undetected. The finding screened to be of very low safety significance (Green) because the safety function of 3SWP\*P2B was not lost based on analysis of design basis flow requirements. The inspectors determined the finding has a cross-cutting aspect in Problem Identification and Resolution, Evaluation, in that the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance. Specifically, Dominion's analysis of the

April 2015 pump failures was not thorough enough to understand a new potential failure mode (impeller movement) and how it may impact system performance.

Inspection Report# : [2015003](#) (*pdf*)

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## Barrier Integrity

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Promptly Correct Inadequate Procedural Direction for Responding to a LOCA with Failure of an RSS Heat Exchanger Tube**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to promptly correct a condition adverse to quality. Specifically, Dominion did not take timely action to address a previously identified issue in which Millstone Unit 3 procedures did not adequately address mitigation and classification of a loss-of-coolant accident (LOCA) with a concurrent loss of containment caused by a recirculation spray system (RSS) heat exchanger tube rupture. In response, Dominion revised a procedure to provide the steps to respond to the event as described in the final safety analysis report (FSAR) and promulgated a briefing sheet to operators to ensure awareness of the issue and new procedure steps. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor because it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The lack of procedural direction to mitigate an RSS heat exchanger tube rupture during a LOCA could result in challenging the integrity of the containment barrier. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment," the finding screened to be of very low safety significance (Green), because the deficiency did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation system (logic and instrumentation), and heat removal components. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Dominion staff considered a needed procedural revision to be lower priority based on confidence in the ability of operators to recognize, diagnose, and implement required actions given the event, rather than exhibiting a conservative bias to ensure the procedure provided a barrier to adverse consequences.

Inspection Report# : [2016009](#) (*pdf*)

**Significance:**  Jun 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Secondary Containment Inoperability Due to Inadequate Procedures**

The inspectors identified a self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Dominion did not develop a Unit 3 Supplementary Leak Collection and Release System (SLCRS) damper preventative maintenance procedure that was adequate to prevent the inoperability of the system. Specifically, deficiencies in maintenance procedure SP 3614I.3A, "Supplementary Leak Collection and Release System Boundary Isolation Damper Test," as well as the SLCRS damper monitoring program and



preventative maintenance strategy, led to both trains of the Unit 3 SLCRS failing their respective surveillance tests resulting in the inoperability of secondary containment. After the issue was identified, Dominion entered the condition into their CAP (CR1033408), declared the secondary containment inoperable until the plant entered a mode of tech Spec non-applicability, and conducted walkdowns and repairs to the system to restore it to compliance.

This performance deficiency was considered to be more than minor because it adversely affected the SSC and barrier performance attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, inadequate maintenance of the SLCRS system led to a system differential pressure during operation that was not adequate to meet its design basis surveillance requirement and thus rendered the system inoperable. Additionally, the performance deficiency was similar to IMC 0612, Appendix E minor example 2.a. The finding was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” and determined to be of very low safety significance (Green) since it only represented a degradation of the radiological barrier function provided for the auxiliary building. The finding is related to the cross-cutting aspect of Human Performance – Design Margins, because Dominion did not operate and maintain equipment within design margins. Specifically, Dominion did not appropriately monitor and maintain the SLCRS system in such a way that declining damper performance trends were identified and prevented prior to the inoperability of the system.

Inspection Report# : [2016002](#) (pdf)

**Significance:**  Nov 13, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate Procedural Direction to Mitigate a LOCA and Failure of an RSS Heat Exchanger Tube**

The inspectors identified a Green NCV of Millstone Unit 3 TS 6.8.1, as specified by Regulatory Guide (RG) 1.33, associated with Dominion’s failure to implement adequate procedures to address a hypothetical large break loss of coolant accident (LBLOCA) inside containment with a failure of a recirculation spray system (RSS) heat exchanger tube resulting in a loss of coolant accident (LOCA) that bypasses the containment barrier.

Dominion did not provide adequate procedural direction or training to the operators for the control of the emergency core cooling systems (ECCS) during this hypothetical event in June of 2015. Dominion entered the issue into their corrective action program as condition report (CR) 1008205.

The finding was more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, as it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was screened to be of very low safety significance (Green) as the deficiency did not represent an actual open pathway in the physical integrity of reactor containment in accordance with IMC 0609, “Significance Determination Process,” Attachment 4, “Initial Characterization of Findings,” and IMC 0609, Appendix A, Exhibit 3, “Barrier integrity Screening Questions,” Section B, “Reactor Containment.” The inspectors identified a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance.

Inspection Report# : [2015003](#) (pdf)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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

## Millstone 3

### 4Q/2016 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Scope Safety Related Acoustic Valve Monitoring System into the Maintenance Rule**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.65(b)(1), for Dominion's failure to include the safety-related Unit 2 Pressurizer Safety Valve, Acoustic Valve Monitoring System (AVMS) SSC within the scope of the maintenance rule program. Specifically, Dominion removed the Millstone Unit 2 AVMS, which is required to remain functional during and following a design bases event to provide indication to operators in the control room of significant abnormal degradation of the reactor coolant pressure boundary and monitor for loss of coolant due to an open safety relief valve, from the scope of the maintenance rule monitoring program. Dominion has documented this condition in their CAP as CR1049493.

The inspectors determined that the finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, Dominion's removal of AVMS from maintenance rule performance and condition monitoring and the failures observed have resulted in the complete loss of availability and reliability of each channel of AVMS such that they cannot perform their intended function. The finding was determined to be of very low safety significance (Green) because the conditions associated with the most applicable design basis event are bound by the small break loss of coolant accident (LOCA) analysis and did not affect other systems used to mitigate a LOCA. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence, in that Millstone Maintenance Rule Expert Panel (MREP) members did not follow the Dominion maintenance rule program implementing procedure, ER-AA-MRL-100, which provides guidance for scoping systems into the maintenance rule.

Inspection Report# : [2016003](#) (*pdf*)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The

team performed a risk screening in accordance with IMC 0609, Appendix A, “Significance Determination Process for Findings At-Power,” using Exhibit 1, “Initiating Events Screening Questions,” Section C, “Support System Initiators.” The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : [2014011](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Review Standing Orders**

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1.a, for Dominion’s failure to implement procedures as required by Regulatory Guide 1.33, Revision 2, Appendix A.1, “Administrative Procedures”, during the performance of watch turnover. This resulted in multiple operators across multiple crews in both Unit 2 and 3 standing watch without performing a review of the applicable standing orders for up to 4 months from March to July 2016. Dominion entered the condition in their corrective action program (CAP) as condition report (CR)1042287.

The inspectors determined that the finding was more than minor because if left uncorrected the performance deficiency could lead to a more significant event. Specifically, the operators did not review TS amendments, emergency action level classifications, emergency operating procedures, and plant computer issues impacting the plant prior to taking watch. Without reviewing the standing orders to understand the information contained within, operators could potentially take improper actions to control the plant during evolutions and abnormal conditions. The finding was determined to be of very low safety significance (Green) because it did not affect design or qualification of a mitigating structure, system, and component (SSC), did not represent a loss of system function, and did not involve external event mitigation systems. The inspectors determined that the finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Field Presence, where leaders are commonly seen in the work areas of the plant observing, coaching, and reinforcing standards and expectations. Specifically, Dominion leadership observations in the control room or management review of monthly standing order audits could have discovered the deviation from standards and expectations.

Inspection Report# : [2016003](#) (*pdf*)

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Implement Corrective Actions for Chronic Leakage at Residual Heat Removal Heat Exchanger Bottom Head Flanges**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Dominion’s failure to correct conditions adverse to quality. Specifically, since 1985 Dominion has not corrected persistent leakage of borated water through the bottom head flanges of the Millstone Unit 3 RHS heat exchangers that is causing accumulating deposits of boric acid including discolored brown and black crystalized and liquid boric acid wastage. Dominion has scheduled repair of the ‘A’ RHS heat exchanger for refuel

outage 3R18 in 2017 and 'B' for 3R19 in 2019. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because if left uncorrected, this performance deficiency has the potential to lead to a more significant safety concern based upon Dominion's failure to correct persistent boric acid leakage with evidence of rust formation and failure to identify the source of the rust and/or bound total lifetime material loss and corrosion of internal components to ensure operability. Specifically, if left uncorrected the availability, reliability, and capability of both trains of RHS has potential to be adversely impacted due to the potential for failure of internal heat exchanger components causing a loss of integrity, internal blockage, or interfacing and/or external loss of coolant. In accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions", Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), because the finding did not represent an actual failure of a system, function, or train of equipment and did not involve equipment specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Work Management, because the organization failed to implement the process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, Dominion continued to defer and reschedule corrective action for repair of the flange connections.

Inspection Report# : [2016009](#) (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

**Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : [2016001](#) (pdf)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure of Feedwater Isolation Valve to Close Due to Electrical Jumper Being Installed**

The inspectors identified a self-revealing Green NCV of TS 3.3.2 for Dominion's failure to meet the operability requirements for the 'C' feedwater isolation valve (FWIV) testing and valve limit testing work associated with Design Change MP3-09-01030, an electrical jumper was left installed in the 'C' FWIV (3FWS\*CTV41C) control circuit. This prevented both channels of the engineered safety features actuation system (ESFAS) signal from closing the 'C' FWIV when called upon during an actual feedwater isolation actuation associated with the reactor trip on January 25, 2016. The installed jumper rendered the 'C' FWIV inoperable for over one year. Dominion's immediate corrective actions included restoring the channels for 3FWS\*CTV41C to operable status by removing the electrical jumper, inspecting the other FWIV control circuits for electrical jumpers, and retesting all of the FWIVs for proper operation.

The performance deficiency was determined to be more than minor because it adversely affected the configuration control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to remove an electrical jumper on the 'C' FWIV during the implementation of a design change led to the failure of the valve to perform its closure safety function when called upon. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual loss of safety function of the system as there was a redundant means of feedwater isolation. The finding has a cross-cutting aspect in Human Performance, Work Management, because Dominion did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, maintenance and operations personnel did not follow the work management procedure for generating a new work order when the additional electrical jumper was installed.

Inspection Report# : [2016001](#) (pdf)

## **Barrier Integrity**

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Promptly Correct Inadequate Procedural Direction for Responding to a LOCA with Failure of an RSS Heat Exchanger Tube**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to promptly correct a condition adverse to quality. Specifically, Dominion did not take timely action to address a previously identified issue in which Millstone Unit 3 procedures did not adequately address mitigation and classification of a loss-of-coolant accident (LOCA) with a concurrent loss of containment caused by a recirculation spray system (RSS) heat exchanger tube rupture. In response, Dominion revised a procedure to provide the steps to respond to the event as described in the final safety analysis report (FSAR) and promulgated a briefing sheet to operators to ensure awareness of the issue and new procedure steps. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor because it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from



radionuclide releases caused by accidents or events. The lack of procedural direction to mitigate an RSS heat exchanger tube rupture during a LOCA could result in challenging the integrity of the containment barrier. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment," the finding screened to be of very low safety significance (Green), because the deficiency did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation system (logic and instrumentation), and heat removal components. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Dominion staff considered a needed procedural revision to be lower priority based on confidence in the ability of operators to recognize, diagnose, and implement required actions given the event, rather than exhibiting a conservative bias to ensure the procedure provided a barrier to adverse consequences.

Inspection Report# : [2016009](#) (*pdf*)

**Significance:** G Jun 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Secondary Containment Inoperability Due to Inadequate Procedures**

The inspectors identified a self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Dominion did not develop a Unit 3 Supplementary Leak Collection and Release System (SLCRS) damper preventative maintenance procedure that was adequate to prevent the inoperability of the system. Specifically, deficiencies in maintenance procedure SP 3614I.3A, "Supplementary Leak Collection and Release System Boundary Isolation Damper Test," as well as the SLCRS damper monitoring program and preventative maintenance strategy, led to both trains of the Unit 3 SLCRS failing their respective surveillance tests resulting in the inoperability of secondary containment. After the issue was identified, Dominion entered the condition into their CAP (CR1033408), declared the secondary containment inoperable until the plant entered a mode of tech Spec non-applicability, and conducted walkdowns and repairs to the system to restore it to compliance.

This performance deficiency was considered to be more than minor because it adversely affected the SSC and barrier performance attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, inadequate maintenance of the SLCRS system led to a system differential pressure during operation that was not adequate to meet its design basis surveillance requirement and thus rendered the system inoperable. Additionally, the performance deficiency was similar to IMC 0612, Appendix E minor example 2.a. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it only represented a degradation of the radiological barrier function provided for the auxiliary building. The finding is related to the cross-cutting aspect of Human Performance – Design Margins, because Dominion did not operate and maintain equipment within design margins. Specifically, Dominion did not appropriately monitor and maintain the SLCRS system in such a way that declining damper performance trends were identified and prevented prior to the inoperability of the system.

Inspection Report# : [2016002](#) (*pdf*)

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## **Emergency Preparedness**

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## Occupational Radiation Safety

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## Public Radiation Safety

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### Security

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### Security

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### Security

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## Miscellaneous

Last modified : February 01, 2017



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## **Millstone 3 – Quarterly Plant Inspection Findings**

### **2Q/2017 – Plant Inspection Findings**

On this page:

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness
- Occupational Radiation Safety
- Public Radiation Safety
- Security

### **Initiating Events**

**Significance:** G Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Scope Safety Related Acoustic Valve Monitoring System into the Maintenance Rule**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.65(b)(1), for Dominion's failure to include the safety-related Unit 2 Pressurizer Safety Valve, Acoustic Valve Monitoring System (AVMS) SSC within the scope of the maintenance rule program. Specifically, Dominion removed the Millstone Unit 2 AVMS, which is required to remain functional during and following a design bases event to provide indication to operators in the control room of significant abnormal degradation of the reactor coolant pressure boundary and monitor for loss of coolant due to an open safety relief valve, from the scope of the maintenance rule monitoring program. Dominion has documented this condition in their CAP as CR1049493.

The inspectors determined that the finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, Dominion's removal of AVMS from maintenance rule performance and condition monitoring and the failures observed have resulted in the complete loss of availability and reliability of each channel of AVMS such that they cannot perform their intended function. The finding was determined to be of very low safety significance (Green) because the conditions associated with the most applicable design basis event are bound by the small break loss of coolant accident (LOCA) analysis and did not affect other systems used to mitigate a LOCA. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence, in that Millstone Maintenance Rule Expert Panel (MREP) members did not follow the Dominion maintenance rule program implementing procedure, ER-AA-MRL-100, which provides guidance for scoping systems into the maintenance rule.

Inspection Report# : 2016003 (*pdf*)

**Significance:**  Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : 2014011 (*pdf*)

## **Mitigating Systems**

**Significance:**  Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Maintain CST Temperature in Accordance with Procedure Requirements**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately implement Operating Procedure (OP) 2319B, "Condensate Storage and Surge System." Specifically, Dominion failed to maintain the Millstone Unit 2 condensate storage tank (CST) temperature above procedural requirements. Dominion has documented this condition within their corrective action program (CAP) as condition report (CR) 1066291.

The inspectors determined this finding was more than minor as it adversely affected the protection from external factors attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The reliability of the mitigating systems heat removal function was challenged based upon the reasonable doubt of lost operability of the CST to provide a sufficient supply of water to the auxiliary feedwater (AFW) system. There was reasonable doubt of lost operability due to indications of CST water temperature below OP 2319B prescribed limitations, winter temperatures falling, and an inability to restore CST recirculation system in a timely manner. The finding was determined to be of very low safety significance (Green), when all screening questions were answered "No" as the conditions discussed in the Dominion engineering evaluation, approved on January 7, 2017, were capable of showing that no safety systems or functions were lost. This finding has a cross-cutting aspect in the Problem Identification and Resolution, Resolution, in that Dominion did not take effective corrective actions or corrective maintenance to address CST recirculation pump degradation in a timely manner, prior to the onset of winter, commensurate with their safety significance such that operations could maintain CST water temperature above procedurally defined limitations.

Inspection Report# : 2017001 (*pdf*)

**Significance:**  Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Change of 'C' Charging Pump Testing Requirements Contrary to ASME OM**

The inspectors identified a Green NCV of 10 CFR 50.55a(f) because Dominion did not perform all required inservice testing (IST) of the Unit 3 'C' charging pump, 3CHS\*P3C, in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code. Specifically, from April 15, 2016, to the end of the inspection period, Dominion stopped the required Group A quarterly surveillances which could result in a condition where degradation of the charging pump would remain undetected by IST testing. Dominion entered this issue into their CAP as CR 1064337.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it adversely affected the Equipment Performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Eliminating quarterly IST surveillance tests could challenge the reliability of the 'C' charging pump and allow degradation of the equipment remaining undetected. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), when the deficiency affecting the design or qualification whereupon the component maintains operability or functionality question was answered "yes." The 'C' charging pump has not yet experienced any failures. This finding has a cross-cutting aspect in Human Performance, Change Management, in accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," where leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, Dominion evaluated this change to the IST program without requesting relief from the ASME Code requirements.

Inspection Report# : 2017001 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Routine Failure to Perform Engineering Evaluation of Long Term Scaffolding**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately implement procedure MA-AA-105, "Scaffolding," Revision 17. Specifically, Dominion routinely failed to perform engineering evaluations of long term scaffolding installed in the plant for greater than 90 days. Dominion has documented this condition within their corrective action program (CAP) as condition report CR1049493.

The inspectors determined that this finding was more than minor as it represents the routine failure to perform 10 CFR 50.59 engineering evaluations consistent with the requirements of procedures MA-AA-105 and CM-AA-400 which if left uncorrected, would have the potential to lead to a more significant safety concern as informed by IMC 0612, Appendix E, "Examples of Minor Issues," example 4.a. The finding screened to be of very low safety significance (Green), when all screening questions were answered "No" as the conditions identified did not challenge safety system functions. This finding has a cross-cutting aspect in the Problem Identification and Resolution, cross-cutting area associated with Resolution, in that under CR1049057, Dominion did not take effective corrective action to resolve and correct the identified gaps in the tracking and assessment of scaffolding installed for greater than 90 days as directed by

MA-AA-105 and CM-AA-400, resulting in three further failures to evaluate long term scaffolding identified by the inspectors in the Unit 2 'A' Safeguards Room.

Inspection Report# : 2016004 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Untimely Corrective Action for Vital Inverters**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take timely corrective actions to replace degraded diodes in Unit 3 vital inverters INV-1 and INV-2 upon receipt of information that called their reliability into question. Specifically, following two inverter failures, Dominion had not taken any corrective actions to replace degraded diodes in the Unit 3 vital inverters from the receipt of the Exelon Power Labs report on September 20 until the susceptible diodes were inspected and replaced on November 17 and 22. Dominion entered this issue into their CAP as CR1041301.

The inspectors found that Dominion's failure to take timely corrective action to replace degraded vital inverter diodes was a performance deficiency within Dominion's ability to foresee and correct. This performance deficiency was considered to be more than minor because it would affect the Mitigating Systems cornerstone equipment performance attribute objective to ensure the availability and reliability of vital 120V power. Specifically, manufacturing defects in the diodes caused these subcomponents to fail when they were expected to last the life of the inverter. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) because although the failure challenged the reliability of the inverters, it did not result in a loss of operability or functionality. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Work Management, in that Dominion focused on managing the risk associated with voluntarily entering a 24 hour technical specifications (TS) limiting condition for operation (LCO) to replace the degraded diodes instead of the potential risk of another inverter failure.

Inspection Report# : 2016004 (*pdf*)

**Significance:**  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Review Standing Orders**

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1.a, for Dominion's failure to implement procedures as required by Regulatory Guide 1.33, Revision 2, Appendix A.1, "Administrative Procedures", during the performance of watch turnover. This resulted in multiple operators across multiple crews in both Unit 2 and 3 standing watch without performing a review of the applicable standing orders for up to 4 months from March to July 2016. Dominion entered the condition in their corrective action program (CAP) as condition report (CR)1042287.

The inspectors determined that the finding was more than minor because if left uncorrected the performance deficiency could lead to a more significant event. Specifically, the operators did not review TS amendments, emergency action level classifications, emergency operating procedures, and plant computer issues impacting the plant prior to taking watch. Without reviewing the standing orders to understand the information contained within, operators could potentially take improper actions to control the plant during evolutions and abnormal conditions. The finding was determined to be of very low safety significance (Green) because it did not affect design or qualification of a mitigating structure, system, and component (SSC), did not represent a loss of system function, and did not involve external event mitigation systems. The inspectors determined that the finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Field Presence, where leaders are commonly seen in the work areas of the plant



observing, coaching, and reinforcing standards and expectations. Specifically, Dominion leadership observations in the control room or management review of monthly standing order audits could have discovered the deviation from standards and expectations.

Inspection Report# : 2016003 (*pdf*)

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Implement Corrective Actions for Chronic Leakage at Residual Heat Removal Heat Exchanger Bottom Head Flanges**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to correct conditions adverse to quality. Specifically, since 1985 Dominion has not corrected persistent leakage of borated water through the bottom head flanges of the Millstone Unit 3 RHS heat exchangers that is causing accumulating deposits of boric acid including discolored brown and black crystallized and liquid boric acid wastage. Dominion has scheduled repair of the 'A' RHS heat exchanger for refuel outage 3R18 in 2017 and 'B' for 3R19 in 2019. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because if left uncorrected, this performance deficiency has the potential to lead to a more significant safety concern based upon Dominion's failure to correct persistent boric acid leakage with evidence of rust formation and failure to identify the source of the rust and/or bound total lifetime material loss and corrosion of internal components to ensure operability. Specifically, if left uncorrected the availability, reliability, and capability of both trains of RHS has potential to be adversely impacted due to the potential for failure of internal heat exchanger components causing a loss of integrity, internal blockage, or interfacing and/or external loss of coolant. In accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions", Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), because the finding did not represent an actual failure of a system, function, or train of equipment and did not involve equipment specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Work Management, because the organization failed to implement the process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, Dominion continued to defer and reschedule corrective action for repair of the flange connections.

Inspection Report# : 2016009 (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

**Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously

documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : 2016001 (*pdf*)

## **Barrier Integrity**

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Promptly Correct Inadequate Procedural Direction for Responding to a LOCA with Failure of an RSS Heat Exchanger Tube**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to promptly correct a condition adverse to quality. Specifically, Dominion did not take timely action to address a previously identified issue in which Millstone Unit 3 procedures did not adequately address mitigation and classification of a loss-of-coolant accident (LOCA) with a concurrent loss of containment caused by a recirculation spray system (RSS) heat exchanger tube rupture. In response, Dominion revised a procedure to provide the steps to respond to the event as described in the final safety analysis report (FSAR) and promulgated a briefing sheet to operators to ensure awareness of the issue and new procedure steps. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor because it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The lack of procedural direction to mitigate an RSS heat exchanger tube rupture during a LOCA could result in challenging the integrity of the containment barrier. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment," the finding screened to be of very low safety significance (Green), because the deficiency did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation system (logic and instrumentation), and heat removal components. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Dominion staff considered a needed procedural revision to be lower priority based on confidence in the ability of operators to recognize, diagnose, and implement required actions given the event, rather than exhibiting a conservative bias to ensure the procedure provided a barrier to adverse consequences.

Inspection Report# : 2016009 (*pdf*)

## **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 : August 03, 2017

*Page Last Reviewed/Updated Wednesday, August 10, 2016*



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## Millstone 3 – Quarterly Plant Inspection Findings

### 2Q/2017 – Plant Inspection Findings

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- Occupational Radiation Safety
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- Security

### Initiating Events

**Significance:** G Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Scope Safety Related Acoustic Valve Monitoring System into the Maintenance Rule**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.65(b)(1), for Dominion's failure to include the safety-related Unit 2 Pressurizer Safety Valve, Acoustic Valve Monitoring System (AVMS) SSC within the scope of the maintenance rule program. Specifically, Dominion removed the Millstone Unit 2 AVMS, which is required to remain functional during and following a design bases event to provide indication to operators in the control room of significant abnormal degradation of the reactor coolant pressure boundary and monitor for loss of coolant due to an open safety relief valve, from the scope of the maintenance rule monitoring program. Dominion has documented this condition in their CAP as CR1049493.

The inspectors determined that the finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, Dominion's removal of AVMS from maintenance rule performance and condition monitoring and the failures observed have resulted in the complete loss of availability and reliability of each channel of AVMS such that they cannot perform their intended function. The finding was determined to be of very low safety significance (Green) because the conditions associated with the most applicable design basis event are bound by the small break loss of coolant accident (LOCA) analysis and did not affect other systems used to mitigate a LOCA. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Procedure Adherence, in that Millstone Maintenance Rule Expert Panel (MREP) members did not follow the Dominion maintenance rule program implementing procedure, ER-AA-MRL-100, which provides guidance for scoping systems into the maintenance rule.

Inspection Report# : 2016003 (*pdf*)

**Significance:** G Aug 01, 2014

Identified By: NRC

Item Type: FIN Finding

### **Inadequate Implementation of Dominion's Design Change Process**

The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).

The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]

Inspection Report# : 2014011 (*pdf*)

### **Mitigating Systems**

**Significance:** G Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Change of 'C' Charging Pump Testing Requirements Contrary to ASME OM**

The inspectors identified a Green NCV of 10 CFR 50.55a(f) because Dominion did not perform all required inservice testing (IST) of the Unit 3 'C' charging pump, 3CHS\*P3C, in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code. Specifically, from April 15, 2016, to the end of the inspection period, Dominion stopped the required Group A quarterly surveillances which could result in a condition where degradation of the charging pump would remain undetected by IST testing. Dominion entered this issue into their CAP as CR 1064337.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it adversely affected the Equipment Performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Eliminating quarterly IST surveillance tests could challenge the reliability of the 'C' charging pump and allow degradation of the equipment remaining undetected. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), when the deficiency affecting the design or qualification whereupon the component maintains operability or functionality question was answered "yes." The 'C' charging pump has not yet experienced any failures. This finding has a cross-cutting aspect in Human Performance, Change Management, in accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," where leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, Dominion evaluated this change to the IST program without requesting

relief from the ASME Code requirements.

Inspection Report# : 2017001 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Routine Failure to Perform Engineering Evaluation of Long Term Scaffolding**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately implement procedure MA-AA-105, "Scaffolding," Revision 17. Specifically, Dominion routinely failed to perform engineering evaluations of long term scaffolding installed in the plant for greater than 90 days. Dominion has documented this condition within their corrective action program (CAP) as condition report CR1049493.

The inspectors determined that this finding was more than minor as it represents the routine failure to perform 10 CFR 50.59 engineering evaluations consistent with the requirements of procedures MA-AA-105 and CM-AA-400 which if left uncorrected, would have the potential to lead to a more significant safety concern as informed by IMC 0612, Appendix E, "Examples of Minor Issues," example 4.a. The finding screened to be of very low safety significance (Green), when all screening questions were answered "No" as the conditions identified did not challenge safety system functions. This finding has a cross-cutting aspect in the Problem Identification and Resolution, cross-cutting area associated with Resolution, in that under CR1049057, Dominion did not take effective corrective action to resolve and correct the identified gaps in the tracking and assessment of scaffolding installed for greater than 90 days as directed by MA-AA-105 and CM-AA-400, resulting in three further failures to evaluate long term scaffolding identified by the inspectors in the Unit 2 'A' Safeguards Room.

Inspection Report# : 2016004 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Untimely Corrective Action for Vital Inverters**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take timely corrective actions to replace degraded diodes in Unit 3 vital inverters INV-1 and INV-2 upon receipt of information that called their reliability into question. Specifically, following two inverter failures, Dominion had not taken any corrective actions to replace degraded diodes in the Unit 3 vital inverters from the receipt of the Exelon Power Labs report on September 20 until the susceptible diodes were inspected and replaced on November 17 and 22. Dominion entered this issue into their CAP as CR1041301.

The inspectors found that Dominion's failure to take timely corrective action to replace degraded vital inverter diodes was a performance deficiency within Dominion's ability to foresee and correct. This performance deficiency was considered to be more than minor because it would affect the Mitigating Systems cornerstone equipment performance attribute objective to ensure the availability and reliability of vital 120V power. Specifically, manufacturing defects in the diodes caused these subcomponents to fail when they were expected to last the life of the inverter. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) because although the failure challenged the reliability of the inverters, it did not result in a loss of operability or functionality. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Work Management, in that Dominion focused on managing the risk associated with voluntarily entering a 24 hour technical specifications (TS) limiting condition for operation (LCO) to replace the degraded diodes instead of the potential risk of another inverter failure.



Inspection Report# : 2016004 (*pdf*)

**Significance:**  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Review Standing Orders**

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1.a, for Dominion's failure to implement procedures as required by Regulatory Guide 1.33, Revision 2, Appendix A.1, "Administrative Procedures", during the performance of watch turnover. This resulted in multiple operators across multiple crews in both Unit 2 and 3 standing watch without performing a review of the applicable standing orders for up to 4 months from March to July 2016. Dominion entered the condition in their corrective action program (CAP) as condition report (CR)1042287.

The inspectors determined that the finding was more than minor because if left uncorrected the performance deficiency could lead to a more significant event. Specifically, the operators did not review TS amendments, emergency action level classifications, emergency operating procedures, and plant computer issues impacting the plant prior to taking watch. Without reviewing the standing orders to understand the information contained within, operators could potentially take improper actions to control the plant during evolutions and abnormal conditions. The finding was determined to be of very low safety significance (Green) because it did not affect design or qualification of a mitigating structure, system, and component (SSC), did not represent a loss of system function, and did not involve external event mitigation systems. The inspectors determined that the finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Field Presence, where leaders are commonly seen in the work areas of the plant observing, coaching, and reinforcing standards and expectations. Specifically, Dominion leadership observations in the control room or management review of monthly standing order audits could have discovered the deviation from standards and expectations.

Inspection Report# : 2016003 (*pdf*)

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Implement Corrective Actions for Chronic Leakage at Residual Heat Removal Heat Exchanger Bottom Head Flanges**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to correct conditions adverse to quality. Specifically, since 1985 Dominion has not corrected persistent leakage of borated water through the bottom head flanges of the Millstone Unit 3 RHS heat exchangers that is causing accumulating deposits of boric acid including discolored brown and black crystallized and liquid boric acid wastage. Dominion has scheduled repair of the 'A' RHS heat exchanger for refuel outage 3R18 in 2017 and 'B' for 3R19 in 2019. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because if left uncorrected, this performance deficiency has the potential to lead to a more significant safety concern based upon Dominion's failure to correct persistent boric acid leakage with evidence of rust formation and failure to identify the source of the rust and/or bound total lifetime material loss and corrosion of internal components to ensure operability. Specifically, if left uncorrected the availability, reliability, and capability of both trains of RHS has potential to be adversely impacted due to the potential for failure of internal heat exchanger components causing a loss of integrity, internal blockage, or interfacing and/or external loss of coolant. In accordance

with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions", Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), because the finding did not represent an actual failure of a system, function, or train of equipment and did not involve equipment specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Work Management, because the organization failed to implement the process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, Dominion continued to defer and reschedule corrective action for repair of the flange connections.

Inspection Report# : 2016009 (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

### **Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : 2016001 (*pdf*)

### **Barrier Integrity**

**Significance:**  Jul 22, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Promptly Correct Inadequate Procedural Direction for Responding to a LOCA with Failure of an RSS Heat Exchanger Tube**

The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to promptly correct a condition adverse to quality.

Specifically, Dominion did not take timely action to address a previously identified issue in which Millstone Unit 3 procedures did not adequately address mitigation and classification of a loss-of-coolant accident (LOCA) with a concurrent loss of containment caused by a recirculation spray system (RSS) heat exchanger tube rupture. In response, Dominion revised a procedure to provide the steps to respond to the event as described in the final safety analysis report (FSAR) and promulgated a briefing sheet to operators to ensure awareness of the issue and new procedure steps. Dominion entered the issue into the corrective action program as condition report CR1041881.

This finding is more than minor because it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The lack of procedural direction to mitigate an RSS heat exchanger tube rupture during a LOCA could result in challenging the integrity of the containment barrier. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment," the finding screened to be of very low safety significance (Green), because the deficiency did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation system (logic and instrumentation), and heat removal components. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Dominion staff considered a needed procedural revision to be lower priority based on confidence in the ability of operators to recognize, diagnose, and implement required actions given the event, rather than exhibiting a conservative bias to ensure the procedure provided a barrier to adverse consequences.

Inspection Report# : 2016009 (*pdf*)

**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 : September 05, 2017

*Page Last Reviewed/Updated Wednesday, June 07, 2017*





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## Millstone 3 – Quarterly Plant Inspection Findings

### 3Q/2017 – Plant Inspection Findings

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#### Initiating Events

#### Mitigating Systems

**Significance:** G May 11, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Change of 'C' Charging Pump Testing Requirements Contrary to ASME OM**

Inspection Report# : 2017001 ([pdf](#))

**Significance:** G Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Routine Failure to Perform Engineering Evaluation of Long Term Scaffolding**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately implement procedure MA-AA-105, "Scaffolding," Revision 17. Specifically, Dominion routinely failed to perform engineering evaluations of long term scaffolding installed in the plant for greater than 90 days. Dominion has documented this condition within their corrective action program (CAP) as condition report CR1049493.

The inspectors determined that this finding was more than minor as it represents the routine failure to perform 10 CFR 50.59 engineering evaluations consistent with the requirements of procedures MA-AA-105 and CM-AA-400 which if left uncorrected, would have the potential to lead to a more significant safety concern as informed by IMC 0612, Appendix E, "Examples of Minor Issues," example 4.a. The finding screened to be of very low safety significance (Green), when all screening questions were answered "No" as the conditions identified did not challenge safety system functions. This finding has a cross-cutting aspect in the Problem Identification and Resolution, cross-cutting area

associated with Resolution, in that under CR1049057, Dominion did not take effective corrective action to resolve and correct the identified gaps in the tracking and assessment of scaffolding installed for greater than 90 days as directed by MA-AA-105 and CM-AA-400, resulting in three further failures to evaluate long term scaffolding identified by the inspectors in the Unit 2 'A' Safeguards Room.

Inspection Report# : 2016004 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Untimely Corrective Action for Vital Inverters**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's failure to take timely corrective actions to replace degraded diodes in Unit 3 vital inverters INV-1 and INV-2 upon receipt of information that called their reliability into question. Specifically, following two inverter failures, Dominion had not taken any corrective actions to replace degraded diodes in the Unit 3 vital inverters from the receipt of the Exelon Power Labs report on September 20 until the susceptible diodes were inspected and replaced on November 17 and 22. Dominion entered this issue into their CAP as CR1041301.

The inspectors found that Dominion's failure to take timely corrective action to replace degraded vital inverter diodes was a performance deficiency within Dominion's ability to foresee and correct. This performance deficiency was considered to be more than minor because it would affect the Mitigating Systems cornerstone equipment performance attribute objective to ensure the availability and reliability of vital 120V power. Specifically, manufacturing defects in the diodes caused these subcomponents to fail when they were expected to last the life of the inverter. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) because although the failure challenged the reliability of the inverters, it did not result in a loss of operability or functionality. This finding has a cross-cutting aspect in the Human Performance cross-cutting area associated with Work Management, in that Dominion focused on managing the risk associated with voluntarily entering a 24 hour technical specifications (TS) limiting condition for operation (LCO) to replace the degraded diodes instead of the potential risk of another inverter failure.

Inspection Report# : 2016004 (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

#### **Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a



single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : 2016001 (*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

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## Millstone 3 – Quarterly Plant Inspection Findings

### 4Q/2017 – Plant Inspection Findings

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- Barrier Integrity
- Emergency Preparedness
- Occupational Radiation Safety
- Public Radiation Safety
- Security

#### Initiating Events

#### Mitigating Systems

**Significance:** G May 11, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Change of 'C' Charging Pump Testing Requirements Contrary to ASME OM**

The inspectors identified a Green NCV of 10 CFR 50.55a(f) because Dominion did not perform all required inservice testing (IST) of the Unit 3 'C' charging pump, 3CHS\*P3C, in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code. Specifically, from April 15, 2016, to the end of the inspection period, Dominion stopped the required Group A quarterly surveillances which could result in a condition where degradation of the charging pump would remain undetected by IST testing. Dominion entered this issue into their CAP as CR 1064337.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it adversely affected the Equipment Performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Eliminating quarterly IST surveillance tests could challenge the reliability of the 'C' charging pump and allow degradation of the equipment remaining undetected. In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), when the deficiency affecting the design or qualification whereupon the component maintains operability or functionality question was answered "yes." The 'C' charging pump has not yet experienced any failures. This finding has a cross-cutting aspect in Human Performance, Change Management, in accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," where leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, Dominion evaluated this change to the IST program without requesting relief from the ASME Code requirements.

Inspection Report# : 2017001 (*pdf*)

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: VIO Violation

### **Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues**

The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : 2016001 (*pdf*)

### **Barrier Integrity**

**Significance:**  Oct 27, 2017

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Inadequate Procedure Results in Inadvertent Lowering of Spent Fuel Pool Level**

A self-revealing NCV of very low safety significance (Green) of Technical Specification (TS) 6.8, "Procedures," was identified because Dominion did not adequately establish Operating Procedure (OP) 2305, "Spent Fuel Pool Cooling and Purification System." Specifically, from initial issuance until June 20, 2017, the procedure did not direct operators to verify the primary demineralizer bypass valve was closed while lining up to fill the spent fuel pool from the coolant waste receiver tanks, resulting in an unexpected loss of spent fuel pool inventory. Dominion has documented this condition within their corrective action program (CAP) as condition report (CR) 1064323, revised procedure OP 2305, and performed an apparent cause evaluation.

The inspectors determined that the finding was more than minor because it was associated with the procedure quality attribute of the Barrier Integrity cornerstone and adversely affected its objective to provide reasonable assurance that physical design barriers, such as fuel cladding, protect the public from radionuclide releases caused by accidents or events. Specifically, spent fuel pool level was inadvertently lowered when operators aligned the system in accordance with OP 2305, which resulted in a reduced net positive suction head for the spent fuel pool cooling pumps as indicated by control room alarm. The finding screened to be of very low safety significance (Green) because it did not result in a loss of spent fuel pool water inventory below the minimum analyzed level limit and did not cause the spent fuel pool temperature to exceed the maximum analyzed temperature limit.

This finding has a cross-cutting aspect in the Human Performance cross-cutting area, Avoid Complacency because Dominion did not recognize and plan for the possibility of a latent deficiency in procedure OP 2305 when used while the primary demineralizers were bypassed.

Inspection Report# : 2017003 (*pdf*)

**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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