

## Millstone 3

# 1Q/2005 Plant Inspection Findings

## Initiating Events

## 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 dole 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\(pdf\)](#)

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**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**

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