

Millstone 2

1Q/2009 Plant Inspection Findings

Initiating Events

Significance:  Sep 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

(FIN 05000336/2008004-01, Installation of Incorrect Internal Trim Package in Valve 2-HD-103A Results in Reactor Trip)

A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to ensure the proper internal trim package (cage) was installed in valve 2-HD-103A, the 1A feedwater heater level control valve as required by Millstone Procedure MP-16-MMM, "Organizational Effectiveness (Corrective Action Program, Operating Experience Program, Independent Safety Engineering Function)". This resulted in level oscillations in feedwater heater 2A during Unit 2 turbine control valve testing and a loss of feedwater, requiring the operators to manually trip the plant. Dominion's corrective actions included installing the correct cage in the valve and entering the issue into their corrective action program.

This finding was more than minor because it is associated with the human performance attribute of the initiating event 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 finding was determined to be of very low 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. This finding has a cross cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Dominion did not identify the issue of the incorrect part for 2-HD-103A completely, accurately, and in a timely manner. [P.1(a)] (Section 40A3)

Inspection Report# : [2008004](#) (*pdf*)

Significance:  Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

(NCV 05000336/2008004-02 Failure to Correct Safety Valve Lifting Following Uncomplicated Reactor Trips).

A self-revealing non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for failure to take effective corrective actions to prevent a Millstone Unit 2 (MP2) steam generator safety valve from lifting following uncomplicated reactor trips from 100% power. Following reactor trips on May 22, 2008 and June 28, 2008, a steam generator safety valve lifted due to a delayed quick open signal to the condenser steam dumps and atmospheric dump valves. In July 2008, Dominion had taken corrective actions by changing the power supplies of the quick open signal controller inputs to ensure an immediate quick open signal to both the condenser steam dump valves and the atmospheric dump valves. Dominion has entered this issue into their corrective action program.

The issue was more than minor because it affects the equipment performance attribute of the Initiating Events Cornerstone and the objective to limit the likelihood of those events that upset plant stability. The cycling of the steam generator safety valves results in a greater likelihood that the valves will not reseal properly during an event. The finding was determined to have very low safety significance since it did not contribute to the likelihood of a primary loss of coolant accident, did not contribute to the likelihood of a reactor trip and the unavailability of mitigating equipment, and did not increase the likelihood of a fire or internal/external flood. This finding is related to the cross-cutting area of Problem Identification and Resolution, Corrective Action Program [P.1(d)]. (Section 40A3)

Inspection Report# : [2008004](#) (*pdf*)

G**Significance:** Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Maintenance Instructions Causes Reactor Coolant System Unidentified Leakage in Excess of Technical Specification Limits

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 provide adequate maintenance instructions in the authorized work order (AWO) for replacing the gaskets on the Unit 2 B LPSI pump suction line. Specifically, the AWO did not have torquing requirements for the flanged connection. As a result, the flanged joint was overtorqued, causing the flexitallic gasket to fail. Spiral winding debris from the gasket became lodged in 2-SI-432, the B LPSI pump suction isolation valve, preventing the valve from closing and causing an unidentified reactor coolant system (RCS) leak in excess of technical specification (TS) limits. Dominion took immediate action to locate and remove the spiral winding material from plant systems, took prompt action to repair valve 2-SI-432, and entered this issue into their corrective action system.

This finding was more than minor because it is associated with the human performance attribute of the initiating event 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 finding has a cross cutting aspect in the area of Human Performance, Resources, because Dominion did not ensure complete, accurate, and up-to-date work packages for the replacement of the gaskets in the B LPSI pump suction line. [H.2(c)]. (Section 4OA3)

Inspection Report# : [2008003](#) (*pdf*)

Mitigating Systems

G**Significance:** Dec 05, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

NCV 05000336/2008008-01, Failure to Ensure Equipment Necessary For Fire Safe Shutdown Available.

The team identified that Dominion failed to administratively control and ensure the availability of all necessary fire safe shutdown equipment to perform manual actions in the 4kV upper switchgear room. This finding was determined to be of very low safety significance (Green) and a NCV of the Millstone Nuclear Power Station, Unit 2 Operating License condition 2.C.(3), Fire Protection.

The 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, Dominion did not ensure that an electrical flash jacket necessary to perform local breaker operations was available in the upper 4kV switchgear room. Actions to restore the A diesel generator would have been delayed for a fire in the lower 4kV switchgear room. 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 systems. 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 additional electrical flash jackets were onsite and the local breaker operations would likely have been performed within 3 hours. The safe shutdown analysis most restrictive timeline for a fire in the lower switchgear room required a charging pump restored within 3 hours for reactor coolant system makeup. Local breaker operations in the upper 4kV switchgear room would be needed to support ac power to a charging pump. The team determined that this finding had a cross cutting aspect in the area of human performance because personnel did not return an electrical flash jacket to its proper storage location even though it was clearly labeled for the upper 4kV switchgear room. (H.4(b)) (Section 1R05.01)

Inspection Report# : [2008008](#) (*pdf*)

G**Significance:** Dec 05, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

NCV 05000336/2008008-02, Failure to Ensure Timely Manual Action Consistent with the Post-Fire Safe Shutdown Analysis.

The team identified that Dominion failed to ensure that a post-fire manual action to restore auxiliary feedwater (AFW) flow to a steam generator (SG) would be performed within 30 minutes of a plant trip consistent with the Millstone Unit 2 fire safe shutdown analysis. This finding was determined to be of very low safety significance (Green) and a NCV of the Millstone Nuclear Power Station, Unit 2 Operating License condition 2.C.(3), Fire Protection.

The 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 timely manual action to restore AFW to SG 1 within 30 minutes of the plant trip for a fire in Fire Area R-2 was not ensured for all circumstances and was validated by Dominion in 1999 to take at least 40 minutes. This finding was similar to more than minor example 3.i in NRC Inspection Manual Chapter (IMC) 0612, Power Reactor Inspection Reports, Appendix E, Examples of Minor Issues. 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 systems. 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 Dominion performed a sensitivity analysis of S-02824-S2, Millstone Unit 2, R-2 Fire, Appendix R Analysis, Rev. 2, and determined that restoring AFW flow to steam generator 1 could be delayed for 50 minutes and result in acceptable plant performance during a safe shutdown event. (Section 1R05.01)

Inspection Report# : [2008008](#) (*pdf*)**G****Significance:** Aug 29, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

B.5.b Phase 2 and 3 Mitigating Strategy

This finding, affecting the Barrier Integrity Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; 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 Human Performance (Resources). [H.2(c)]. See inspection report for more details.

Inspection Report# : [2008007](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : May 28, 2009