

## Millstone 2

# 1Q/2005 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2005

Identified By: NRC

Item Type: FIN Finding

#### **FAILURE TO ADEQUATELY ADDRESS CONCERNS RELATED TO FREEZE PROTECTION OF THE OUTDOOR TEMPORARY AIR COMPRESSOR**

The inspectors identified a self-revealing finding for the failure to adequately address issues related to the operation of an outdoor temporary air compressor and associated air dryer skid during cold weather conditions. On November 11, 2004, Dominion had identified that additional freeze protection actions were required to ensure the availability of the compressor during cold weather. Subsequently, the inspectors identified two occasions where actions taken to ensure availability of the compressor were not adequate. On December 17, 2004, the inspectors identified that a heat trace for the system dryer was deenergized. On February 1, 2005, the temporary air compressor failed causing the "B" instrument air compressor to start. Following the air transient, Dominion conducted an investigation and concluded that the cause of the temporary air compressor failure was freezing of the pre-filter on the air dryer skid. Dominion replaced the compressor, installed a tent around the air-dryer towers, and placed a heating unit inside the tent. The finding was 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 performance issue associated with this finding was the failure to take adequate actions to ensure that adverse weather conditions did not affect the availability of the temporary instrument air system. The risk of this finding was determined to be of very low safety significance (Green), because, although the temporary air compressor system became unavailable, the standby instrument air compressor restored instrument air system pressure. The instrument air system pressure stabilized and recovered such that the instrument air header pressure did not cause a reactor trip. This finding was related to the cross-cutting area of Problem Identification and Resolution in that Dominion failed to take adequate corrective actions to prevent the air dryer skid from freezing.

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

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROPERLY ESTABLISH AND IMPLEMENT 10 CFR 50, APPENDIX B, CRITERION XVI, TO ADDRESS REPEATED LIFTING OF MAIN STEAM CODE SAFETY VALVES**

The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, for the failure to take effective corrective actions to preclude main steam code safety valves from lifting following design basis turbine trips/reactor trips from 100% power. Following two uncomplicated reactor trips at Unit 2 in March 2004, the inspectors noted that main steam code safety valves lifted and reseated. The inspectors determined that Unit 2 had a history of main steam code safety valves lifting and reseating following uncomplicated trips. The inspectors concluded that cycling main steam code safety valves following trips from full power increases the likelihood that they may not reseat. Dominion had not taken effective corrective actions to correct this longstanding issue. Dominion has undertaken a study (to complete by the end of 2004) to evaluate this system condition and to specify long term design changes which will be scheduled for completion in refueling outage 2R17 (fall of 2006). Dominion has entered this issue into their corrective action program. This issue is 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. Cycling of main steam code safety valves results in a greater likelihood that the valves will not reseat properly during an event. The finding was determined to have a very low safety significance since it did not contribute to the likelihood of a primary loss of coolant accident, did not contribute to both 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.

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

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **I&C TECHNICIANS AND OPERATIONS PERSONNEL DID NOT VERIFY ALL APPROPRIATE PREREQUISITES OR PERFORM ALL APPLICABLE PROCEDURAL STEPS WHICH THEN RESULTED IN THE ADVERTENT ACTUATION OF A SAFETY-RELATED SYST**

The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1, for the failure to adequately implement post-maintenance testing following replacement of a pressurizer level instrument. On July 28, 2004, Operations and Maintenance personnel failed to meet a "Unit 2 Shutdown" procedural prerequisite and did not perform a procedure step to place charging pump controls in pull-to-lock during post-maintenance testing of pressurizer level control circuitry. As a result, both standby charging pumps started with one charging pump already operating. Dominion has specified training for both Operations and Maintenance organizations describing the circumstances of this event and

management expectations for work evolution briefs, peer checking, and actions to be taken for unexpected conditions. Additionally, Maintenance management reinforced work practice expectations for the use of "N/A" in procedures and work planning process improvements. 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 Initiating Events Cornerstone and the objective to limit the likelihood of those events that upset plant stability. The start of both standby charging pumps with one charging pump already operating was the precursor to the failure of the charging system on March 7, 2003. The finding was determined to have a very low safety significance since it did not contribute to the likelihood of a primary loss of coolant accident, did not contribute to both 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 Human Performance.  
Inspection Report# : [2004007\(pdf\)](#)

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**Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ADEQUATELY IMPLEMENT PROCEDURES FOR DRAINING THE RCS**

The inspectors identified a non-cited violation of Technical Specification 6.8.1a for the failure to adequately implement procedures for draining the reactor coolant system (RCS). During the October 2003 refueling outage, Dominion drained down the RCS for an approximate 1.5 hour period with only one accurate means of level indication. The operator dedicated to monitoring refuel pool level was released from his duties prior to completion of the draindown and the operators in the control room were mis-reading the remote camera indication of the refuel pool level. Also, a recent revision of the procedure controlling the draindown had removed the steps required to conduct a valve line-up of the RCS mid-loop wide range level indicator (LI-112). As a result, LI-112 was not on scale as expected because it was isolated due to a previous maintenance activity. During this period, the only accurate means of refuel pool level was mass balance. This finding is more than minor because it is associated with the initiating event cornerstone attribute of configuration control during shutdown and affected the likelihood of causing a loss of reactor water inventory to the point that shutdown cooling could be lost. The significance was low because multiple corrective measures available to ensure reactor cooling were maintained. Operators could have stopped the draindown by closing one valve from the control room, the draindown would have been automatically terminated once low pressure safety injection pump pressure lost suction, and operators could have restored shutdown cooling if it was lost. This finding is related to the cross-cutting issue of Human Performance.  
Inspection Report# : [2004006\(pdf\)](#)

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## Mitigating Systems

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**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT PROCEDURES TO CORRECTLY INSTALL TEMPORARY COOLING TO THE EAST 480 VOLT SWITCHGEAR**

The inspectors identified a self-revealing non-cited violation of Technical Specification 6.8.1a, "Procedures and Programs," for the failure to adequately implement the procedure for installing temporary ventilation through the East 480 volt vital switchgear room when normal cooling was disabled for maintenance. The procedure establishes the required flow path in the switchgear room when compensatory cooling measures were required. On January 12, 2005, operators failed to perform the procedure step that opens doors to provide for an exhaust path to allow warm air to leave the switchgear room. The finding was greater than minor because the failure to install the compensatory cooling system, per the procedure, caused the air flow through the East 480 volt switchgear room to be below the minimum required to support cooling of the 480 volt system for initiating events (transients), mitigating systems, and barrier integrity systems. The finding was associated with the equipment performance attribute of the initiating events and mitigating systems cornerstones, and the containment structures, systems, and components and barrier performance attribute of the barrier integrity cornerstone. Since more than one cornerstone was affected, a Reactor Safety Significance Determination Process Phase 2 analysis was performed. The analysis resulted in a finding of very low safety significance (Green) because the improper installation of the compensatory measures did not result in an actual loss of the supported 480 volt AC system or electro hydraulic control functions. This finding was related to the cross-cutting area of Human Performance in that both Engineering and Operations personnel failed to correctly implement the procedure for compensatory cooling.  
Inspection Report# : [2005002\(pdf\)](#)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **HIGH CONCENTRATION OF AIRBORNE RADIOACTIVE MATERIAL DURING FILTER TRANSFERS**

Dominion did not use process or other engineering controls, to the extent practical, to control the concentration of radioactive material in air during handling of radioactive spent Unit 2 filters on September 29, 2004. As a result, elevated concentrations of radioactive material in air was generated and two workers sustained unplanned intakes of airborne radioactive material. This was a self-revealing, non-cited violation of 10 CFR 20.1701, "Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas, Use of Process or Other Engineering Controls." The finding was greater than minor, in that it was associated with the program and processes for exposure control and monitoring attribute of the Radiation Safety Cornerstone attributes and did affect the objective of the Cornerstone. The finding was determined to be of very low risk significance (Green) using NRC Manual Chapter 0609, Appendix C, in that it involved an ALARA exposure control finding, but the three year rolling average collective occupational dose for Millstone did not exceed 135 person-rem. Dominion suspended the work activity and initiated a root cause investigation. This finding was related to the cross-cutting area of Human Performance in that Dominion did not use process or engineering controls, to the extent practical, resulting in exposure of two workers to elevated concentrations of airborne radioactive material..

Inspection Report# : [2004008\(pdf\)](#)

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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