

Millstone 3

4Q/2013 Plant Inspection Findings

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*)

Mitigating Systems

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:  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:  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*)

Occupational Radiation Safety

Public Radiation Safety

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 : February 24, 2014