

## 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 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*)

**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