



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

November 3, 2010

Mr. David Heacock
President and Chief Nuclear Officer
Dominion Resources
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION - NRC INTEGRATED INSPECTION REPORT
05000336/2010004 AND 05000423/2010004

Dear Mr. Heacock:

On September 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Millstone Power Station Unit 2 and Unit 3. The enclosed inspection report documents the inspection results, which were discussed on October 6, 2010, with Mr. A. J. Jordan and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

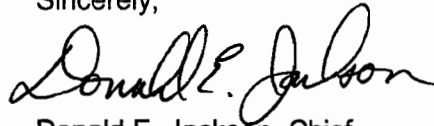
The report documents two NRC identified-findings, and one self-revealing finding of very low safety significance (Green). Two of these findings were determined to involve violations of NRC requirements. Additionally, four licensee identified violations, which were determined to be of very low safety significance, are listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Millstone. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at Millstone.

D. Heacock

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In accordance with Title 10 of the Code of Federal Regulations (CFR) Part 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

A handwritten signature in black ink, appearing to read "Donald E. Jackson". The signature is fluid and cursive, with the first name "Donald" being the most prominent.

Donald E. Jackson, Chief
Projects Branch 5
Division of Reactor Projects

Docket Nos. 50-336, 50-423
License Nos. DPR-65, NPF-49

Enclosure: Inspection Report No. 05000336/2010004 and 05000423/2010004
w/Attachment: Supplemental Information

cc w/encl: Distribution via Listserv

D. Heacock

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Sincerely,

/RA/

Donald E. Jackson, Chief
Projects Branch 5
Division of Reactor Projects

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-336, 50-423

License No.: DPR-65, NPF-49

Report No.: 05000336/2010004 and 05000423/2010004

Licensee: Dominion Nuclear Connecticut, Inc.

Facility: Millstone Power Station, Units 2 and 3

Location: P. O. Box 128
Waterford, CT 06385

Dates: July 1, 2010 through September 30, 2010

Inspectors: S. Shaffer, Senior Resident Inspector, Division of Reactor Projects (DRP)
J. Krafty, Resident Inspector, DRP
B. Haagensen, Resident Inspector, DRP
T. Moslak, Health Physicist, Division of Reactor Safety (DRS)
M. Balazik, Reactor Inspector, DRS
T. O'Hara, Reactor Inspector, DRS
L. Kauffman, Health Physicist, DNMS
K. Modes, Senior Health Physicist, DNMS

Approved by: Donald E. Jackson, Chief
Projects Branch 5
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000336/2010004, 05000423/2010004; 7/1/2010 – 9/30/2010; Millstone Power Station Unit 2 and Unit 3; Identification and Resolution of Problems, Event Follow-up.

The report covered a three-month period of inspection by resident and region-based inspectors. Two NRC-identified non-cited violations (NCVs) and one self-revealing finding (FIN) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process." The cross-cutting aspects were determined using IMC 0310, "Components Within the Cross Cutting Areas." Findings for which the significance determination process (SDP) does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Initiating Events

- Green. The inspectors identified a Green, NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for Dominion's failure to promptly identify and correct the source of a reactor coolant system (RCS) pressure boundary leak from July 3, 2009, through July 13, 2009. Dominion subsequently repaired the leak and returned to 100 percent power.

The inspectors determined that Dominion's failure to promptly identify and correct the cause of pressure boundary leakage is a performance deficiency that was reasonably within Dominion's ability to foresee and correct and should have been prevented. This issue is more than minor because the issue is similar to NRC Inspection Manual Chapter (IMC) 0612, Appendix E, and minor example 2.g. The inspectors determined that the issue affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors concluded that this condition, assuming the worst case degradation, would not have affected other mitigating systems resulting in a total loss of their safety function. Accordingly, the finding was determined to be of very low safety significance (Green) using IMC 609, Attachment 0609.004, Phase 1 Screening Worksheet. The inspectors determined that this issue had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Dominion did not identify the pressure boundary leakage completely, accurately, and in a timely manner commensurate with its safety significance. [P.1(a)] (Section 4OA2)

- Severity Level IV. The inspectors identified a Severity Level IV, NCV of 10 CFR 50.55a(2)(c)(1) and 10 CFR 50.55a(3), when Dominion did not perform an ASME Code-compliant radiographic examination for a leak in a Class 1 weld on the Unit 2 'A' RCP seal cooler piping before returning the system to service. Dominion was out of compliance with 10 CFR 50.55a(2)(c)(1), 10 CFR 50.55a(3), and Section III of the American Society of Mechanical Engineers (ASME) Code between July 24, 2009, and

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November 10, 2009. The NRC granted verbal relief from the 10 CFR 50.55a(2)(c)(1), 10 CFR 50.55a(3), and the ASME Code requirements on November 10, 2009. Subsequently, the relief request was approved, in writing, by the NRC on April 26, 2010.

In accordance with IMC 0612, Appendix B, Section 1-2, this finding had the potential to impact the NRC's ability to perform its regulatory function because Dominion verbally informed the NRC on July 17, 2009, that they would repair the affected component in accordance with ASME Code requirements. However, due to Dominion's misinterpretation of the ASME Code, Dominion did not subsequently inform the NRC of its inability to meet Code requirements (i.e. perform a Code compliant radiographic examination of the affected weld) before returning the plant to service. As a result, Dominion's actions had impeded the NRC's ability to evaluate and determine the efficacy of the licensee's actions. The issue was characterized as Severity Level IV because it is similar to the example provided in the NRC Enforcement Policy Section 6.1.d.2, in that, it involved a violation of NRC requirements that resulted in a condition evaluated as having very low safety significance (i.e., Green) by the Significance Determination Process (SDP). The inspector determined that this issue had a cross-cutting aspect in the Human Performance cross-cutting area, Decision Making component, because Dominion did not use conservative assumptions in their decision making when they concluded that Code relief from the NRC would not be necessary to accomplish the repair. [H.1(b)] (Section 4OA2)

- Green. A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to implement timely corrective actions for a degraded Unit 2 feedwater regulating valve (FRV) in accordance with procedure PI-AA-200, "Corrective Action". Specifically, two weeks after the issue was first identified, the #2 FRV further degraded causing Dominion to trip the reactor when the #2 steam generator (SG) level could not be adequately controlled. Dominion subsequently repaired the FRV and returned the plant to 100 percent power.

The inspectors determined that Dominion's failure to implement timely corrective actions for a degraded #2 FRV in accordance with procedure PI-AA-200, "Corrective Action", was a performance deficiency. This finding is more than minor because it was similar to NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4f, in that the failure to correct a condition adverse to quality led to a reactor trip. The finding was associated with the equipment performance attribute of the Initiating Events 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. Specifically, Dominion's failure to implement timely corrective actions for the #2 FRV caused the operators to manually trip the reactor when the #2 SG level could not be controlled. 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 take appropriate corrective action to address the degraded #2 FRV in a timely manner, commensurate with its safety significance. [P.1(d)]. (Section 4OA3)

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Other Findings

Violations of very low safety significance that were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

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REPORT DETAILS

Summary of Plant Status

Millstone Units 2 and 3 began the inspection period operating at 100 percent power. On August 13, 2010, Millstone Unit 3 was shutdown to replace flexible metallic hoses in the Reactor Coolant System (RCS) that were determined to be unqualified for system pressure. Unit 3 was returned to 100% power on August 18, 2010, and operated at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - 2 samples)

.1 External Flooding Inspection

a. Inspection Scope

The inspectors evaluated Dominion's readiness to cope with external flooding at Unit 2 and Unit 3. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and identified the areas that could be affected by external flooding and the design flood levels for those areas. The inspectors reviewed applicable procedures to verify that the actions required in the event of flooding could reasonably be completed, and that the appropriate equipment was prestaged. The inspectors performed a walkdown of Unit 2 and Unit 3 intake structures, fire pump houses and inspected the material condition of flood doors in order to determine if the structures and components were being adequately maintained. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

.2 Imminent Adverse Weather

a. Inspection Scope

The inspectors evaluated Dominion's preparations for Hurricane Earl at Unit 2 and Unit 3. The inspectors reviewed the UFSAR and identified the areas that could be affected by hurricane force winds and the storm surge up to the design flood levels for those areas. The inspectors reviewed applicable procedures to verify that the actions required in the event of flooding could reasonably be completed, and that the appropriate equipment was prestaged. The inspectors performed a walkdown of Unit 2 and Unit 3 external areas, intake structures and fire pump houses, and inspected the

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material condition of flood doors in order to determine if the structures and components were being adequately maintained. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 - 5 samples)

a. Inspection Scope

The inspectors performed five partial system walkdowns during this inspection period. The inspectors reviewed the documents listed in the Attachment to determine the correct system alignment. The inspectors performed a walkdown of each system to determine if the critical portions of the selected systems were correctly aligned, in accordance with the procedures, and to identify any discrepancies that may have had an effect on operability. The walkdowns included selected switch and valve position checks, and verification of electrical power to critical components. Finally, the inspectors evaluated other elements, such as material condition, housekeeping, and component labeling. The following systems were reviewed based on their risk significance for the given plant configuration:

Unit 2

- 'A' EDG while performing a slow start of the 'B' EDG on July 22, 2010;
- 'A' High Pressure Safety Injection (HPSI) train while performing 'B' HPSI train surveillances on July 22, 2010;

Unit 3

- Station Blackout (SBO) EDG while the Unit 2 'B' EDG was out for maintenance on September 14, 2010;
- 'B' Charging during replacement of the 'C' Charging pump and motor on September 14, 2010, and September 15, 2010; and
- 'A' EDG while performing a slow start of the 'B' EDG on September 23, 2010.

b. Findings

No findings were identified.

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.2 Complete System Walkdowns (71111.04S – 1 sample)

a. Inspection Scope

The inspectors performed a detailed review of the alignment and condition of the Unit 2 Service Water System. The inspectors reviewed the documents listed in the Attachment to determine the correct system alignment. The inspectors performed a walkdown of the system to verify whether critical portions of the system were correctly aligned in accordance with the procedures, and to identify any discrepancies that may have had an effect on operability. The inspectors reviewed system health reports, condition reports, and maintenance rule evaluations to determine whether equipment problems were being identified and appropriately resolved.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q – 7 samples)

.1 Fire Protection – Quarterly

a. Inspection Scope

The inspectors performed walkdowns of seven fire protection areas. The inspectors reviewed Dominion's fire protection program to determine the required fire protection design features, fire area boundaries, and combustible loading requirements for the selected areas. The inspectors walked down these areas to assess Dominion's control of transient combustible material and ignition sources. In addition, the inspectors evaluated the material condition and operational status of fire detection and suppression capabilities, fire barriers, and any related compensatory measures. The inspectors compared the existing conditions of the areas to the fire protection program requirements to determine if all program requirements were being met. Documents reviewed during the inspection are listed in the Attachment. The fire protection areas that were reviewed included:

Unit 2

- Reactor Building Closed Cooling Water (RBCCW) & Heat Exchanger Area, Fire Zone A-1;
- Charging Pump Room, Fire Zone A-6;
- Turbine Building West Cable Vault, Fire Zone T-8;
- Turbine Building East Cable Vault, Fire Zone T-9;
- Auxiliary Building General Area, Fire Zone A-1G;
- Auxiliary Building Cable Vault, Fire Zone A-24; and
- Auxiliary Building East Piping Penetration Area, Fire Zone A-10.

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b. Findings

No findings were identified.

.2 Annual Fire Drill Observation (71111.05A – 1 sample)

a. Inspection Scope

The inspectors observed Dominion personnel during a fire brigade drill on July 14, 2010, to evaluate the readiness of station personnel to fight fires. The drill simulated a fire of the Unit 2 Hydrogen Seal Oil unit in the turbine building. The inspectors observed the fire brigade members using protective clothing, turnout gear, self-contained breathing apparatus, and entering the fire area. The inspectors also observed the fire fighting equipment brought to the fire scene to evaluate whether sufficient equipment was available to effectively control and extinguish the simulated fire. The inspectors evaluated whether the permanent plant fire hose lines were capable of reaching the fire area, and whether hose usage was adequately simulated. The inspectors observed the fire fighting directions and communications between fire brigade members. The inspectors also evaluated whether the pre-planned drill scenario was followed, and observed the post drill critique to evaluate if the drill objectives were satisfied and that any drill weaknesses were discussed.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

a. Inspection Scope

The inspectors inspected 3EMH*3A (contains cables for Unit 3 ECCS pumps) and M2-manhole 1A and 1B (contains cables for Unit 2 service water pumps) in order to determine if the cables were submerged in water. The inspectors verified that the cables were not submerged in water and that the cables and splices were intact. The inspectors observed the condition of the cable support structures and concrete vault, and discussed the results of the inspection with Dominion engineers. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

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1R07 Heat Sink Performance (71111.07A – 1 sample)

a. Inspection Scope

The inspectors observed the as-found condition of the Unit 2 'B' EDG heat exchanger after it was opened to verify that any adverse fouling concerns were appropriately addressed. The inspectors reviewed the results of the inspections against the acceptance criteria contained within the procedure to determine whether all acceptance criteria were satisfied. The inspectors also reviewed the UFSAR to ensure that heat exchanger inspection results were consistent with the design basis. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11 - 2 samples)

Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

The inspectors observed simulator-based licensed operator requalification training for Unit 2 on August 31, 2010, and for Unit 3 on September 7, 2010. The inspectors evaluated crew performance in the areas of clarity and formality of communications; ability to take timely actions; prioritization, interpretation, and verification of alarms; procedure use; control board manipulations; oversight and direction from supervisors; and command and control. Crew performance in these areas was compared to Dominion management expectations and guidelines as contained in OP-MP-100-1000, "Millstone Operations Guidance and Reference Document." The inspectors compared simulator configurations with actual control board configurations. The inspectors also observed Dominion evaluators discuss identified weaknesses with the crew and/or individual crew members, as appropriate. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 3 samples)

a. Inspection Scope

The inspectors reviewed three samples of Dominion's evaluation of degraded conditions, involving safety-related structures, systems and/or components for

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maintenance effectiveness during this inspection period. The inspectors reviewed Dominion's implementation of the "Maintenance Rule," 10 CFR 50.65. The inspectors reviewed Dominion's ability to identify and address common cause failures; the applicable maintenance rule scoping document for each system; the current classification of these systems in accordance with 10 CFR 50.65 paragraph (a)(1) or (a)(2); and the adequacy of the performance criteria and goals established for each system, as appropriate. The inspectors also reviewed recent system health reports, condition reports (CRs), apparent cause determinations, functional failure determinations, operating logs, and discussed system performance with the responsible system engineer. Documents reviewed during the inspection are listed in the Attachment.

The specific systems/components reviewed were:

Unit 2

- Station Electrical Service 4.16 KV;
- Emergency Safeguards Actuation System (ESAS); and

Unit 3

- Containment Isolation.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 6 samples)

a. Inspection Scope

The inspectors evaluated online risk management for six emergent and planned activities. The inspectors reviewed maintenance risk evaluations, work schedules, and control room logs to determine if concurrent planned and emergent maintenance or surveillance activities adversely affected the plant risk already incurred with out of service (OOS) components. The inspectors evaluated whether Dominion took the necessary steps to control work activities, minimize the probability of initiating events, and maintain the functional capability of mitigating systems. The inspectors assessed Dominion's risk management actions during plant walkdowns. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed the conduct and adequacy of risk assessments for the following maintenance and testing activities:

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Unit 2

- Yellow Risk for 'B' HPSI Train Surveillances on July 22, 2010;
- Medium risk for implementing part of the temporary modification for bypassing the static switch on VR-11 on September 2, 2010;
- Troubleshooting letdown flow oscillations on August 31, 2010;
- Two-year maintenance on 'B' EDG with auto auxiliary feedwater (AFW) initiation and ESAS UV surveillances on September 13, 2010;

Unit 3

- Emergent work to repair relief valve 3FWA*RV45, Turbine Driven Auxiliary Feedwater (TDAFW) pump discharge relief valve; and
- Yellow Risk for south bus outage and Reserve Station Support Transformer (RSST) Capacitive Coupled Voltage Transmitter (CCVT) protective relay replacement.

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 – 6 samples)a. Inspection Scope

The inspectors reviewed six operability determinations (OD). The inspectors evaluated the ODs against the guidance contained in NRC Regulatory Issue Summary 2005-20, Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." The inspectors also discussed the conditions with operators and system and design engineers, as necessary. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed the adequacy of the following evaluations of degraded or non-conforming conditions:

Unit 2

- CR388014, 'A' RCS Temperature Instrument Erratic Voltages;
- CR390441, 'A' RBCCW HX (X-18) Structural Degradation;
- CR394968, Degraded Channel Head on 'B' EDG Heat Exchanger;

Unit 3

- ODM000116, "Elevating Unit 3 Unidentified RCS leakage," Revision 3;
- CR387565, "SW pump 3SWP*P3A Differential Pressure Degrading Trend"; and
- OD000381, "ASME Section XI Requires VT-2 Examination of Class III Piping," Revision 0.

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b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)a. Inspection Scope

To assess the adequacy of the modifications, the inspectors performed walkdowns of selected plant systems and components, interviewed plant staff, and reviewed applicable documents, including procedures, calculations, modification packages, engineering evaluations, drawings, corrective action program documents, the UFSAR, and TS.

For the modifications reviewed, the inspectors determined whether selected attributes (component safety classification, energy requirements supplied by supporting systems, seismic qualification, instrument setpoints, uncertainty calculations, electrical coordination, electrical loads analysis, and equipment environmental qualification) were consistent with the design and licensing bases. Design assumptions were reviewed to verify that they were technically appropriate and consistent with the UFSAR. For each modification, the 10 CFR 50.59 screenings or safety evaluations were reviewed. The inspectors also verified that procedures, calculations, and the UFSAR were properly updated with revised design information. In addition, the inspectors verified that the as-built configuration was accurately reflected in the design documentation, and that post-modification testing was adequate to ensure the structures, systems, and components would function properly. Documents reviewed during the inspection are listed in the Attachment.

Unit 2

- DCN DM2-00-0108-10, Temporary design change to repower the backup control rod scanner; and

Unit 3

- DCN DM3-00-0145-10, Flex hoses installed within the equalizing lines for 3RHS*MV8701A, *MV8701C, *MV8702B and MV8702C.

b. Findings

No findings were identified.

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1R19 Post-Maintenance Testing (71111.19 – 7 samples)a. Inspection Scope

The inspectors reviewed post-maintenance test (PMT) activities to determine whether the PMT adequately demonstrated that the safety-related function of the equipment was satisfied, given the scope of the work specified, and that operability of the system was restored. In addition, the inspectors evaluated the applicable test acceptance criteria to evaluate consistency with the associated design and licensing bases, as well as TS requirements. The inspectors also evaluated whether conditions adverse to quality were entered into the corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment. The following maintenance activities and PMTs were evaluated:

Unit 2

- SP 2402A, Reactor Program System (RPS) Channel 'A' Temperature Instrument Calibration," Revision 000-10 following replacement of Spec 200 Card;
- OP 2304E21-001, "'C' Charging Pump Post Maintenance Testing," Revision 000-02 Following Reduction Gear Inspection;
- OP 2309X21-001, "'B' Containment Spray (CS) Pump Operability, In-Service Testing (IST) and Check Valve Testing," Revision 000-01 following corrective maintenance on the 'B' CS pump;

Unit 3

- SP 3630A.6, Reactor Plant Component Cooling Water (RPCCW) Pump 3CCP*P1C Comprehensive Test;
- SP 3626.10, MCC and Rod Control SW Booster Pump 3SWP*P3A Operational Readiness Tests;
- SP 3622.3, TDAFW Pump Operational Readiness Test; and
- AWO 53102366804, Post maintenance test following replacement of low pressure hosing installed on the RCS system with proper high pressure hosing.

b. Findings

No findings were identified.

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1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)

Millstone Unit 3 Forced Outage

a. Inspection Scope

On August 13, 2010, Dominion conducted a plant shutdown and entered a forced outage to repair a leaking compression fitting and to replace seven ASME Class 2 flex hoses that had been determined to be of insufficient pressure rating. On August 11, 2010, Dominion discovered that flex hoses that were installed in 1995 as a part of a modification to vent the between-the-disk area of RHR system gate valves to prevent pressure locking and thermal binding were only rated for 1200 psi when they were required to be rated for full RCS pressure (2235 psi). The inspectors evaluated the outage plan and outage activities to confirm that Dominion had appropriately considered risk, had developed risk reduction and plant configuration control methods, had adhered to licensee and TS requirements, and had taken appropriate corrective action prior to the start-up. The inspectors observed the shutdown and portions of the reactor start-up processes and power ascension activities. The inspectors verified that conditions adverse to quality during the outage were entered into the corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

A licensee identified NCV is discussed in Section 4OA7.

1R22 Surveillance Testing (71111.22 – 7 samples)

a. Inspection Scope

The inspectors reviewed surveillance activities to determine whether the testing adequately demonstrated equipment operational readiness and the ability to perform the intended safety-related function. The inspectors attended pre-job briefings, reviewed selected prerequisites and precautions to determine if they were met, and observed the tests to determine whether they were performed in accordance with the procedural steps. Additionally, the inspectors reviewed the applicable test acceptance criteria to evaluate consistency with associated design bases, licensing bases, and TS requirements; and that the applicable acceptance criteria were satisfied. The inspectors also evaluated whether conditions adverse to quality were entered into the corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment. The following surveillance activities were evaluated:

Unit 2

- SP 2401F, "RPS High Power Trip Test," Revision 004-05;
- SP 2401G, "RPS Bistable Trip Test Data Sheet," Revision 002-08;

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- SP 2613K-001, "Periodic Diesel Generator (DG) Slow Start Operability Test, Facility 1 (Loaded Run)," Revision 003-08;
- SP 2613N-001, "Periodic DG Operability Test, Facility 2 (SIAS Start)," Revision 000-05;
- SP 2407A2, "ICCMS Cabinet C1111 (Facility 2) Calibration and Functional Test," Revision 001-01;

Unit 3

- SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02," June 30, 2010 (IST); and
- SP 3646A.2, "EDG 'B' Operability Tests", Revision 020.

b. Findings

A licensee identified NCV is discussed in Section 4OA7.

2. **RADIATION SAFETY**

Cornerstone: Public and Occupational Radiation Safety

2RS06 Radioactive Gaseous and Liquid Effluent Treatment (71124.06 – 1 sample)

a. Inspection Scope

During the period August 30, 2010, through September 2, 2010, the inspectors evaluated Dominion's response to identifying that contaminated water was found in an underground electrical vault.

The inspectors reviewed relevant documents including the sample results for water found in the Unit 3 underground electrical vault (3EHM-3A); the troubleshooting plan used to determine the source of the contaminated water; the associated condition report (CR389065); and relevant site maps and system drawings. The inspectors discussed the status of the investigation with the Chemistry Manager and site Environmental Scientist. The inspectors walked down the Unit 3 plant areas associated with this issue including yard drains, ground water monitoring wells, electrical vaults, tanks, and sumps. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

Enclosure

2RS08 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage and Transportation (71124.08 – 1 sample)

a. Inspection Scope

During the period August 30, 2010, through September 2, 2010, the inspectors performed the following activities to verify that Dominion's radioactive material processing and transportation programs complied with the requirements of 10 CFR 20, 61, 71; and Department of Transportation (DOT) regulations 49 CFR 170-189.

Radioactive Waste Systems Walkdown

The inspectors walked down accessible portions of the Unit 2 and Unit 3 radioactive liquid and solid radwaste processing systems with the respective radwaste operators. During the tour, the inspectors evaluated if the systems and facilities were consistent with the descriptions contained in the UFSAR and the Process Control Program (PCP); evaluated the general material conditions of the systems and facilities; and identified any changes to the systems. The inspectors reviewed the current processes for transferring radioactive resin/sludge to shipping containers, and the subsequent de-watering process.

Also during this tour, the inspectors walked down portions of radwaste systems that are no longer in service or abandoned in place, and discussed with the radwaste operators, the status of administrative and physical controls for these systems including components of the site liquid radwaste evaporators, and the Unit 2 SG blowdown treatment system and boric acid evaporator.

The inspectors visually inspected various radioactive material storage locations with the Supervisor, Radioactive Material Control including areas of the Millstone Radwaste Reduction Facility (MRRF), Warehouse 9, and outside yard locations within the Owner Controlled Area, to evaluate inventories, material conditions and radiological controls.

Waste Characterization and Classification

The inspection included a selective review of the waste characterization and classification program for regulatory compliance, including:

- The radio-chemical sample analytical results for various radioactive waste streams;
- The development of scaling factors for hard-to-detect radio-nuclides from radio-chemical data;
- The methods and practices used to detect changes in waste streams; and

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- The characterization and classification of waste relative to 10 CFR 61.55 and the determination of DOT shipment subtype per 49 CFR 173.

Shipment Preparation

The inspection included a review of radioactive waste program records, shipment preparation procedures, and training records, including:

- Reviewing radwaste and radioactive material shipping logs for calendar years 2009 and 2010;
- Verifying that training was provided to appropriate personnel responsible for classifying handling, and shipping radioactive materials, in accordance with Bulletin 79-19 and 49 CFR 172 Subpart H;
- Verifying that appropriate NRC (or agreement state) license authorization was current for shipment recipients for recent shipments; and
- Verifying compliance with the relevant Certificates-of-Compliance and related procedures for shipping casks and high integrity containers.

Shipment Records

The inspectors selected and reviewed records associated with five shipments of radioactive material made since the last inspection of this area. The shipments were Numbers 09-039, 09-055, 09-061, 10-019, and 10-020. The following aspects of the radioactive waste packaging and shipping activities were reviewed:

- Implementation of applicable shipping requirements including proper completion of manifests;
- Implementation of specifications in applicable certificates-of-compliance, for the approved shipping casks/high integrity containers, including limits on package contents;
- Verification that dewatering criteria was met;
- Classification of radioactive materials relative to 10 CFR 61.55 and 49 CFR 173;
- Labeling of containers relative to package dose rates;
- Radiation and contamination surveys of the packages;
- Placarding of transport vehicles;
- Conduct of vehicle checks;
- Providing of emergency instructions to the driver;
- Completion of shipping papers; and
- Notification by the recipient that the radioactive materials have been received.

Identification and Resolution of Problems

The inspectors reviewed the 2009 Annual Radioactive Effluent Release Report, relevant CRs, Nuclear Oversight Audits/field observation reports, radwaste system health reports, and recent Yard Area Radiological Material Container Inspection reports. Through this review, the inspectors assessed Dominion's threshold for identifying

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problems, and the promptness and effectiveness of the resulting corrective actions. This review was conducted against the criteria contained in 10 CFR 20.1101(c) and with Dominion's procedures.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES [OA]**

4OA1 Performance Indicator (PI) Verification (71151 – 10 samples)

Cornerstone: Mitigating Systems

a. Inspection Scope

The inspectors reviewed Dominion submittals for the PIs listed below to verify the accuracy of the data reported during that period. The PI definitions and guidance contained in NEI 99-02 were used to verify the basis for reporting each data element. The inspectors reviewed portions of the operations logs, monthly operating reports, and maintenance rule functional failure evaluations and discussed the methods for compiling and reporting the PIs with cognizant licensing and engineering personnel. Documents reviewed during the inspection are listed in the Attachment.

Unit 2

- Mitigating System Performance Indication (MSPI) High Pressure Safety Injection System;
- MSPI Auxiliary Feedwater System;
- MSPI Emergency AC Power System;
- MSPI Residual Heat Removal System;
- MSPI Support Cooling Water System;

Unit 3

- MSPI High Pressure Safety Injection System;
- MSPI Auxiliary Feedwater System;
- MSPI Emergency AC Power System;
- MSPI Residual Heat Removal System; and
- MSPI Support Cooling Water System.

b. Findings

No findings were identified.

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4OA2 Identification and Resolution of Problems (71152)

.1 Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into Dominion's corrective action program. This was accomplished by reviewing the description of each new CR and attending daily management review committee meetings. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

.2 Annual Sample: Station Blackout (SBO) Diesel Maintenance Outage

a. Inspection Scope (1 sample)

The inspectors performed an in-depth review of the post-maintenance testing and corrective actions associated with the SBO Diesel maintenance outage that occurred from July 19, 2010, through July 25, 2010. The inspectors reviewed work orders, post-maintenance tests and CRs generated as a result of the maintenance. The inspectors also interviewed the system engineer, operations, maintenance, engineering, and corrective action personnel. Documents reviewed during the inspection are listed in the Attachment.

b. Findings and Observations

No findings were identified. The inspectors determined that procedure MP 3721AB, "SBO Diesel 24 and 48 Month Required Preventive Maintenance (PM)," was not adequately completed. Specifically, section 4.1, "Overspeed Trip Test," directs the personnel to adjust the overspeed trip if the engine does not trip in the required speed range. During the maintenance run, the SBO diesel engine tripped below the speed acceptance criteria, yet the overspeed trip was not adjusted. Instead, a handwritten note was written below the step to indicate that a CR would be written to adjust the overspeed trip at the next two-year trip test PM. CR389032 was written to document the overspeed trip results and to request a work order to adjust the overspeed setting at the next two-year PM. The CR was reviewed by both the Corrective Action Review Team and the Corrective Action Assignment Review Team and was closed to a work order. The inspectors also determined that Procedure AA-AD-102, "Procedure Use and Adherence," which allows a procedure to be exited permanently without completing the procedure, was not followed. Procedure AA-DD-102 requires that the reason the procedure was not completed be documented in the work order or procedure. The inspectors determined that this was not completed. Approval from the first line

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supervisor was obtained before exiting the procedure; however, it is not clear who authorized, or, who should authorize, exiting the procedure permanently.

The inspectors screened the procedure compliance issues in accordance with NRC Inspection Manual Chapter (IMC) 0612B, "Issue Screening," and determined that they constitute issues of minor significance that are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

.3 Unit 2 Operator Workarounds

a. Inspection Scope (1 sample)

The inspectors performed an in-depth review of Unit 2 operator workarounds. The inspectors reviewed the operations aggregate impact report and procedure, and interviewed operations personnel in order to determine if deficiencies affecting operators were being appropriately characterized and prioritized. Documents reviewed during the inspection are listed in the Attachment.

b. Findings and Observations

No findings were identified. The inspectors determined that conditions that had a negative impact on shift operations that were evaluated using the Operational Decision Making process were not being considered in the operations aggregate impact calculations as is required by OP-AA-1700, "Operations Aggregate Impact." The inspectors screened this issue in accordance with IMC 0612B, "Issue Screening," and determined that it is an issue of minor significance that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

.4 Unit 3 Operator Workarounds

a. Inspection Scope (1 sample)

The inspectors performed an in-depth review of Unit 3 operator workarounds. The inspectors reviewed the operations aggregate impact report and procedure, and interviewed operations personnel in order to determine if deficiencies affecting operators were being appropriately characterized and prioritized. Documents reviewed during the inspection are listed in the Attachment.

b. Findings and Observations

No findings were identified. The inspectors determined that conditions that had a negative impact on shift operations that were evaluated using the Operational Decision Making process were not being considered in the operations aggregate impact calculations as is required by OP-AA-1700, "Operations Aggregate Impact." The inspectors screened this issue in accordance with IMC 0612B, "Issue Screening," and determined that it is an issue of minor significance that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

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.5 Annual Sample: Diagnostic Testing Associated with 'A' Train Cold Leg Safety Injection Motor Operated Valve (3SIH-MV8821A)

a. Inspection Scope (1 sample)

This inspection was conducted to assess Dominion's identification, evaluation, and resolution of the issue documented in CR114517. Specifically, during motor operated valve (MOV) diagnostic testing of 3SIH-MV8821A following a packing replacement, Dominion determined that MOV program limits associated with maximum pull-out force along with minimum seating force could not be achieved simultaneously. With the current torque switch setting, the maximum pull-out force was achieved, but the closing force was below the design force as documented in calculation 89-094-00997ES Revision 8, "Millstone Unit 3 Target/Torque Calculation for 3SIH-MV8821A and 3SIH-MV8821B." In addition, Dominion determined that the operating force in both the open and close directions exceeded the maximum operating force as documented in CR116172.

The inspection focused on Dominion's problem identification, evaluation, and corrective actions associated with the above issue. The inspectors interviewed plant personnel, and reviewed performance data, design calculations, surveillance test procedures, and test results to evaluate the performance of the MOV and the effectiveness of Dominion's corrective actions. The inspectors reviewed Design Change Notice, DM3-00-03-16-08, which modified the MOV's close circuitry from torque switch control to limit switch control to ensure the design function of the MOV was maintained. The inspectors conducted a walkdown with plant personnel to assess the material condition of the MOV. Documents reviewed during the inspection are listed in Attachment.

b. Findings and Observations

No findings were identified.

The inspectors determined that Dominion had performed a complete and accurate identification of the problem in a timely manner commensurate with the issue's significance and ease of discovery. Dominion revised the MOV design calculation to increase the operating force in both open and close directions due to the packing replacement, and modified the closure control scheme from torque switch to limit switch controlled. Dominion concluded that the valve thrust capability was maintained with the modification. During the review of MOV diagnostic test data, the inspectors noted that Dominion did not document the evaluation of a potential over thrust condition that occurred during the as-found diagnostic testing of the MOV. Dominion entered this issue into the corrective action program as CR392640 and verified that the maximum open design thrust limit as defined by the weak link analysis was not exceeded. The inspectors determined that Dominion had identified and implemented appropriate corrective actions to address the issue and that those corrective actions had been completed.

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.6 Annual Sample: Review of Actions to Address Several Main Steam Safety Valve (MSSV) Test Failures (Unit 2 & Unit 3)

a. Inspection Scope (1 sample)

This inspection was conducted to assess whether Dominion's evaluations and corrective actions associated with issues concerning initial surveillance test failure of several MSSVs were reasonable to correct the identified causes and prevent recurrence of the problems. In particular, the inspectors reviewed Dominion's evaluation and corrective actions associated with CR113238 (Unit 3) regarding micro-bonding of the MSSV disk and seat, thereby causing the lift pressure to exceed the surveillance test acceptance criteria. In addition, the CR addressed issues associated with the testing procedure for the MSSVs.

The inspectors reviewed Dominion's associated CRs and corrective actions, evaluations, surveillance testing, and plant procedures to determine the completeness of the evaluation and the adequacy of the corrective actions. The inspectors interviewed the component engineer along with additional staff to understand past issues and the effectiveness of the corrective actions. Documents reviewed during the inspection are listed in Attachment.

b. Findings and Observations

No findings were identified.

The inspectors determined that Dominion's actions associated with the surveillance test failure of several MSSVs were reasonable to correct the identified causes. For the CRs reviewed, the associated evaluations were appropriately detailed to identify apparent causes and to develop suitable corrective actions. One action involved the use of upgraded valve disk material that was not susceptible to micro-bonding. Currently, Dominion has five upgraded spare MSSVs for Unit 3. For Unit 2, two installed valves and two spares contain the upgraded valve disk material. The inspectors reviewed the results of the most recent surveillance test of the Unit 3 MSSVs performed in April, 2010. The inspectors noted that all testing met the acceptance criteria, and that the data indicated there was no evidence of micro-bonding. Additionally, on-site surveillance testing is planned for all Unit 2 MSSVs in the next refueling outage, scheduled for Spring 2011. In addition, the inspectors noted Dominion made several enhancements to the MSSV testing procedure.

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.7 Annual Sample: Reactor Coolant System (RCS) Pressure Boundary Leak Repair of the Unit 2, 'A' Reactor Coolant Pump (RCP) Seal Cooler – Follow-up Inspection of Unresolved Item (URI) 05000336/2009004-03, "Unit 2 'A' Reactor Coolant Pump Seal Cooler Weld."

a. Inspection Scope (1 sample)

The inspectors performed a follow-up inspection to a URI associated with the repair of a reactor coolant system (RCS) pressure boundary leak in the piping of the Millstone Unit 2, 'A' Reactor Coolant Pump (RCP) seal cooler. The URI was originally documented in NRC inspection report 05000336,423/2009004 as URI 05000336/2009004-03, "Unit 2 'A' Reactor Coolant Pump Seal Cooler Weld." The inspectors interviewed several Dominion employees and reviewed documents. The inspectors also reviewed video records of inspections performed by Dominion between December 2008 and February 2009. This inspection was conducted in accordance with NRC Inspection Procedure 71152, "Problem Identification and Resolution," and the related sections of the American Society of Mechanical Engineers (ASME) Code. The inspectors identified two NCVs in the review and closure of this URI.

b. Findings

- .1 Introduction: The inspectors identified a Green, NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for Dominion's failure to promptly identify and correct the source of an RCS pressure boundary leak from July 3, 2009, through July 13, 2009. Dominion subsequently repaired the leak and returned to 100 percent power.

Description: In December 2008, Millstone Unit 2 experienced an increase in unidentified RCS leakage from approximately 0.05 gallons per minute (gpm) to approximately 0.111 gpm. Unidentified RCS leakage remained at approximately 0.111 gpm until after the 'A' RCP seal was replaced, and a leaking weld on the 'A' RCP seal cooler piping was repaired between July 3, 2009, and July 17, 2009.

Dominion began investigating the cause of the increased, unidentified leakage in December 2008. Dominion opted to use remote video equipment to inspect and assess the potential leakage evident from the 'A' RCP seal and seal cooler area. These inspections were conducted with the plant at full power. The ASME Code specifies a level 2 visual test (VT-2) for detection of RCS pressure boundary leakage. However, Dominion's inspection procedure did not meet ASME technical parameters for VT-2 inspections; did not contain written, specific guidance on inspection reporting criteria and components to be inspected; was not performed by VT-2 qualified personnel; and the results of the inspection were not adequately documented, reported, and reviewed by a qualified non-destructive examination (NDE) level III individual. The inspectors noted that Dominion did not perform an inspection meeting ASME VT-2 requirements on the 'A' RCP seal assembly and the 'A' RCP seal cooler between December 2008, and July 2, 2009.

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NRC inspectors reviewed three videos of the 'A' RCP seal/seal cooler area taken between December 2008 and February 2009. The videos indicated that it was not conclusive that the RCP seal was the only source of leakage occurring in the 'A' RCP cubicle. Dominion concluded that the increased, unidentified leakage was coming from the 'A' RCP seal, and that it was mechanical leakage vice pressure boundary leakage, at least partially, based upon these videos. Dominion decided to replace the 'A' RCP seal at the first opportunity, suspecting the 'A' RCP seal to be the only source of the increased, unidentified leakage.

After a plant trip on July 3, 2009, Dominion conducted a VT-2 inspection for pressure boundary leakage to determine the source(s) of the increased, unidentified leakage. The inspectors questioned the Dominion VT-2 inspector about the results of the VT-2 inspection completed, and the Dominion inspector reported that (a) the 'A' RCP seal was not leaking above the vapor seal area; and, (b) other RCS leakage may have been occurring due to the existence of a large amount of dried boric acid in the vicinity of the 'A' RCP seal cooler when he conducted his inspection on July 3, 2009. The Dominion inspector verbally debriefed plant management on these inspection results on July 3, 2009. However, the inspector did not document these details in a VT-2 inspection report; and, as a result, Dominion did not report these non-conforming inspection results in the corrective action program for review and evaluation. After the undocumented VT-2 inspection on July 3, 2009, Dominion proceeded to Mode 5 and replaced the 'A' RCP seal assembly.

Upon replacement of the 'A' RCP seal assembly, Dominion began a plant startup and entered Mode 4 (from Mode 5) at 6:09 a.m. on July 12, 2009. Millstone Unit 2 reached Mode 3 on July 13, 2009, and began an operational leak check and VT-2 inspection of the RCS pressure boundary. During this VT-2 inspection at normal operating temperature and pressure, Dominion inspectors identified an RCS pressure boundary leak coming from a weld on the 'A' RCP seal cooler piping. Because this was RCS pressure boundary leakage, Dominion then commenced a plant cooldown and returned to Mode 5, in accordance with Millstone Unit 2 Technical Specification 3.4.6.2, action b. The plant returned to Mode 5 at 4:01 p.m. on July 13, 2009. The inspectors concluded that Dominion had operated with RCS pressure boundary leakage from July 12, 2009, to July 13, 2009, a period of approximately 36 hours. Due to Dominion's failure to document and evaluate the July 3, 2009, VT-2 inspection results and the failure to enter the non-conforming inspection results in the corrective action program for review and evaluation, Dominion did not take prompt action to investigate and evaluate potential sources of RCS leakage when indications of RCS leakage were identified on July 3, 2009.

Analysis: Dominion's failure to promptly identify and correct the cause of pressure boundary leakage is a performance deficiency that was reasonably within Dominion's ability to foresee and correct and should have been prevented. Traditional enforcement does not apply since there were no actual safety consequences, impacts on the NRC's ability to perform its regulatory function, or willful aspects to the finding.

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This issue is more than minor because the issue is similar to IMC 0612, Appendix E, minor example 2.g. The inspectors determined that the issue affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspector concluded that this condition, assuming the worst case degradation, would not have affected other mitigating systems resulting in a total loss of their safety function. Accordingly, the finding was determined to be of very low safety significance (Green) using IMC 609, Attachment 0609.004, Phase 1 Screening Worksheet.

The inspectors determined that this issue had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Dominion did not identify the pressure boundary leakage completely, accurately, and in a timely manner commensurate with its safety significance. [P.1(a)].

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," states, in part, that, "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."

Contrary to the above, Dominion did not promptly identify and correct the pressure boundary leakage from July 3, 2009, to July 13, 2009. Dominion had operated the plant above Mode 5 with pressure boundary leakage for approximately 36 hours. Dominion subsequently repaired the leak and returned to 100 percent power. Because this issue is of very low safety significance (Green), and has been entered into the corrective action program (CR 397769), this finding is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 055000336/2010004-01, Failure to Promptly Identify and Correct the Source of a Unit 2 RCS Pressure Boundary Leak).**

- .2 Introduction: The inspectors identified a Severity Level IV, NCV of 10 CFR 50.55a(2)(c)(1) and 10 CFR 50.55a(3), when Dominion did not perform an ASME Code-compliant radiographic examination for a leak in a Class 1 weld on the Unit 2 'A' RCP seal cooler piping before returning the system to service. Dominion was out of compliance with 10 CFR 50.55a(2)(c)(1), 10 CFR 50.55a(3), and Section III of the ASME Code between July 24, 2009, and November 10, 2009. The NRC granted verbal relief from the 10 CFR 50.55a(2)(c)(1), 10 CFR 50.55a(3), and the ASME Code requirements on November 10, 2009. Subsequently, the relief request was approved, in writing, by the NRC on April 26, 2010.

Description: Dominion repaired a leak in a Class 1 weld on the Unit 2, 'A' RCP seal cooler piping on July 17, 2009. The affected piping is 1.5" inside diameter (ID) piping and is part of the RCS pressure boundary. During repair of the leaking weld, Dominion started the repair as an ASME Section XI repair and was directed to Section III of the ASME code for weld defect removal and for post repair non-destructive examination. Dominion discovered on July 14, 2009, that a radiograph of Code acceptable quality

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could not be completed as required by Section III. Dominion notified the NRC verbally on July 14, 2009, that a Code repair would not be possible due to the inability to complete a Code compliant radiograph to complete the repair. Dominion informed the NRC that a Code relief request would be needed to return the plant to service when the repair was completed. Subsequently, on July 17, 2009, Dominion informed the NRC, during a recorded teleconference, that they had changed their evaluation and would be performing a Code repair in accordance with ASME code requirements; and that Code relief from the NRC would not be necessary to accomplish the repair. Dominion stated that code relief was not needed because the repair would be an ASME Code repair because the repair had not affected the base metal of the affected weld joint.

Dominion completed the repair on July 17, 2009, and returned the affected system and the plant to service on July 24, 2009. On July 30, 2009, Dominion sought interpretation from the ASME Code, Section XI Subcommittee on Dominion's interpretation that base metal was not affected, and that a radiograph was not required to complete the repair. On August 17, 2009, Dominion received an interpretation from the Section XI Subcommittee stating that for the condition described in Dominion's request, the examination of the repair shall satisfy the Construction Code examination requirements for both base metal and weld repair. Therefore, a Code compliant radiograph was required to meet ASME Code requirements. Thus, Dominion was out of compliance with the ASME Code and 10 CFR 50.55a(2)(c)(1) and 10 CFR 50.55a(3) beginning on July 24, 2009, when the plant returned to service.

Dominion subsequently submitted a request to the NRC for relief from the 10 CFR 50.55a(2)(c)(1) and the ASME Code, Section III requirement to perform a radiograph, and proposed an alternative NDE process for the repair. This relief request was submitted on September 22, 2009. The NRC granted verbal relief from the 10 CFR 50.55a(2)(c)(1), 10 CFR 50.55a(3), and the ASME Code requirements on November 10, 2009. Subsequently, the relief request was approved, in writing, by the NRC on April 26, 2010.

Analysis: In accordance with IMC 0612, Appendix B, Section 1-2, this finding had the potential to impact the NRC's ability to perform its regulatory function because Dominion verbally informed the NRC on July 17, 2009, that they would repair the affected component in accordance with ASME Code requirements. However, due to Dominion's misinterpretation of the ASME Code, Dominion did not subsequently inform the NRC of its inability to meet Code requirements (i.e. perform a Code compliant radiographic examination of the affected weld) before returning the plant to service. As a result, Dominion's actions had impeded the NRC's ability to evaluate and determine the efficacy of the licensee's actions.

The inspectors determined that this issue was a performance deficiency because it was within Dominion's ability to determine that a radiograph should have been completed to comply with the ASME Code. The inspectors determined that IMC 0612, Appendix E, examples 5.b. and 5.c. are similar to this performance deficiency because the system was not repaired in accordance with 10 CFR 50.55a(2)(c)(1) and 10 CFR 50.55a(3) requirements before the RCS system was returned to service. Thus, the inspectors

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determined that the performance deficiency was more than minor. Specifically, Dominion did not comply with the requirements of 10 CFR 50.55a(2)(c)(1), 10 CFR 50.55a(3), and ASME Code, Section III, in that, a post weld repair radiographic examination was not successfully completed on the affected weld joint repair in the reactor coolant system pressure boundary, nor did Dominion request Code relief to accomplish an alternative repair inspection prior to returning the component to service.

In accordance with the NRC Enforcement Policy, the violation was characterized as Severity Level IV because it is similar to the example provided in the NRC Enforcement Policy Section 6.1.d.2, in that, it involved a violation of NRC requirements that resulted in a condition evaluated as having very low safety significance (i.e., Green) by the significance determination process (SDP).

The inspectors determined that this issue had a cross cutting aspect in the Human Performance cross-cutting area, Decision Making component, because Dominion did not use conservative assumptions in their decision making when they concluded that Code relief from the NRC would not be necessary to accomplish the repair. [H.1(b)]

Enforcement: 10 CFR 50.55a(2)(c)(1) states, in part, "...that components which are part of the reactor coolant pressure boundary must meet the requirements for Class 1 components in Section III of the ASME Code." A requirement of ASME Section III for weld repairs is to complete a valid radiograph to complete a weld repair when the repair affects weld metal and base metal. Contrary to the above, between July 17, 2009, and November 10, 2009, Dominion failed to ensure that a component that is part of the reactor coolant system pressure boundary at the Millstone Unit 2 Nuclear Power Station met the requirements for a Class 1 component in Section III of the ASME Code. Specifically, Dominion did not perform a Code compliant radiographic examination for a weld repair which affected weld metal and base metal on a Class 1 weld on the 'A' RCP seal cooler piping.

Additionally, 10 CFR 50.55a(3) states, in part, "Proposed alternatives to the requirements of paragraph (c) of this section ... may be used when authorized by the Director, Office of Nuclear Reactor Regulation." Contrary to this requirement, Dominion did not obtain authorization for an alternative NDE method to examine the weld repair prior to returning the component to service. Dominion failed to request Code relief for an alternative method of evaluating the effectiveness of the repair before returning the component to service on July 24, 2009.

The inspectors determined that this finding represented a Severity Level IV NCV per the NRC Enforcement Policy because the violation was neither willful nor repetitive, and because Dominion restored compliance within a reasonable time after the violation was identified. Because this finding is of very low safety significance and has been entered into the corrective action program (CR345114), this issue is being treated as a Severity Level IV NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000336/2010004-02, Failure to Perform an ASME Code-compliant Radiographic Examination on a Class 1 Weld on the Unit 2 'A' RCP Seal Cooler Piping.**

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4OA3 Event Follow-up (71153 – 5 samples).1 (Closed) LER 05000423/2008-005-01, Containment Penetration Not Fully Closed During Fuel Movement

On November 5, 2008, with the plant in Mode 6, operators discovered that 3FWS*V861, 'C' SG drain line isolation valve, which was relied upon to meet TS containment penetration requirements during fuel movement in containment, was not fully closed. LER 05000423/2008-005 reported this as a condition prohibited by TS. The details of this LER were previously documented in IR 05000423/2009002. Revision 1 to the LER reports that the condition could have also prevented the fulfillment of the safety functions of structures or systems that are needed to control the release of radioactive material. The inspectors reviewed the LER. No findings were identified. This LER is closed.

.2 (Closed) LER 05000336/2009-003 and LER 05000336/2009-003-01, Two Independent Diesel Generators Rendered Inoperable Due to Common Cause

On October 7, 2009, while Millstone Unit 2 was in Mode 5, operators conducted a control board walkdown at turnover and noted that the inhibit keys for undervoltage protection were in place, and the sensor channels for both vital buses were bypassed. It was determined that the channels were bypassed earlier in the day when the plant was in Mode 4. This condition existed for approximately seven hours and rendered both EDGs inoperable. The EDGs were available to be remotely started. Dominion had no documented procedure for bypassing the undervoltage protection. The details of a licensee identified NCV regarding this issue are discussed in section 4OA7 of this report. The inspectors reviewed the LER, CRs, and apparent cause evaluation. This LER is closed.

.3 (Closed) LER 05000423/2010-003 Secondary Containment Rendered Inoperable Due to Misaligned Dampers

On May 27, 2010, while Millstone Unit 3 was at 100 percent power, operators discovered two sets of auxiliary building tunnel exhaust dampers open at the same time. Millstone technical specifications allowed only one set of dampers open. This configuration rendered secondary containment inoperable. The condition was immediately corrected by closing one set of dampers. The correct damper position should have been established prior to entering Mode 4 on May 13, 2010. The details of a licensee identified NCV regarding this issue are discussed in section 4OA7 of this report. The inspectors reviewed the CR and LER. This LER is closed.

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4. (Closed) LER 05000336/2010-002 Manual Reactor Trip on High Steam Generator Water Level

a. Inspection Scope

On May 22, 2010, with Unit 2 at 100 percent power, the reactor was manually tripped by operators due to a high water level condition in the #2 steam generator. All control rods inserted into the reactor following the trip. Safety systems functioned as expected based on signals received. The unit was brought to a stable condition in hot standby. The investigation determined that SG level rose due to a degraded positioner for the #2 feedwater regulating valve, 2-FW-51B. The degraded positioner for the feedwater regulating valve (FRV) was replaced.

The inspectors responded to the control room and evaluated the adequacy of operator actions in accordance with approved procedures. The inspectors performed walkdowns and interviewed personnel to verify that the plant was stable. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

Introduction: A self-revealing finding of very low safety significance (Green) was identified for Dominion's failure to implement timely corrective actions for a degraded Unit 2 FRV in accordance with procedure PI-AA-200, "Corrective Action". Specifically, two weeks after the issue was first identified, the #2 FRV further degraded causing Dominion to trip the reactor when the #2 SG level could not be adequately controlled. Dominion subsequently repaired the FRV and returned the plant to 100 percent power.

Description: On July 8, 2010, operators wrote a CR identifying that a degraded #2 FRV was causing 30 megawatt thermal oscillations in the 15 second calorimetric. A follow-up CR was written on July 10, 2010. Troubleshooting was not commenced until July 22, 2010 when the #2 FRV further degraded causing larger calorimetric oscillations. Dominion operations personnel placed the #2 FRV in master manual control and were in the process of taking local control when control room operators manually tripped the plant on high level in #2 SG.

Dominion's root cause determined that the cause of #2 FRV's failure to control #2 SG level was due to wear in the threads of the brass beam screw on the FRV positioner. For several years, Dominion has been replacing the FRV positioners every refueling outage to prevent failure due to high vibration wear. The FRV positioners were replaced during 2R19 in October 2009.

The root cause also identified that two years earlier on July 20, 2008, CR-08-08259 documented #2 FRV causing 24 megawatt oscillations in the 15 second calorimetric. Unlike the 2010 response, operators took local control of the FRV and stabilized the plant and then followed up by replacing the positioner on-line two days later on July 22, 2008.

Enclosure

Analysis: The inspectors determined that Dominion's failure to implement timely corrective actions for a degraded #2 FRV in accordance with procedure PI-AA-200, "Corrective Action", was a performance deficiency. The cause was reasonably within Dominion's ability to foresee and correct, and should have been prevented. Traditional enforcement does not apply since there were no actual safety consequences, impacts on the NRC's ability to perform its regulatory function, or willful aspects to the finding. This finding is more than minor because it was similar to NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4f, in that the failure to correct a condition adverse to quality led to a reactor trip. The finding was associated with the equipment performance attribute of the Initiating Events 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. Specifically, Dominion's failure to implement timely corrective actions for the #2 FRV caused the operators to manually trip the reactor when the #2 SG level could not be adequately controlled. The inspectors conducted a Phase 1 screening, in accordance with NRC IMC Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety 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.

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 take appropriate corrective action to address the degraded #2 FRV in a timely manner, commensurate with its safety significance. [P.1(d)].

Enforcement: Enforcement action does not apply because the performance deficiency did not involve a violation of a regulatory requirement. Dominion entered this issue into their corrective action program (CR 382055). Dominion subsequently repaired the FRV and returned the plant to 100 percent power. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, it is identified as a finding. **(FIN 05000336/2010004-03, Failure to Implement Timely Corrective Actions for a Degraded Unit 2 FRV Results in Manual Reactor Trip)**

.5 Unit 3 TDAFW Pump Approaching Technical Specification Required Shutdown

a. Inspection Scope

On August 23, 2010, Unit 3 approached the expiration deadline of the allowed outage time (AOT) for Technical Specification 3.7.1.2, Limiting Condition for Operation (LCO) Action Statement 'C'. The TDAFW pump had failed its quarterly surveillance test on August 19, 2010, because of a leaking discharge relief valve 3FWA*RV45. Complications arising from a freeze seal installation delayed completion of the work order and repair efforts. Dominion provided an advanced copy of a request for enforcement discretion when it appeared likely that they would not be able to complete retesting the pump before the expiration of the AOT.

Enclosure

The inspectors prepared for a timely submittal for a request for enforcement discretion with NRC regional and headquarters personnel. Prior to receiving the official request for enforcement discretion, Dominion completed a satisfactory surveillance test on the TDAFW pump prior to expiration of the AOT and exited the TS LCO.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 TI-2515/179 Verification of Licensee Responses to NRC Requirement for Inventories of Materials Tracked in the National Source Tracking System

a. Inspection Scope

During the period August 30, 2010, through September 2, 2010, the inspectors performed the following activities to confirm the inventories of materials possessed at Millstone were appropriately reported and documented in the National Source Tracking System (NSTS) in accordance with 10 CFR 20.2207.

Inspection Planning

- The inspectors retrieved a copy of the inventory from Dominion's NSTS account via Regional staff with NSTS access.

Inventory Verification

- The inspectors performed a physical inventory of the sources listed on Millstone's inventory and visually identified each source listed on the inventory.
- The inspectors verified the presence of the nationally tracked sources by having a radiation protection supervisor perform a survey with a radiation survey instrument.
- The inspectors examined the physical condition of the source containers; evaluated the effectiveness of the procedures for secure storage and handling; discussed Millstone's maintenance of the device including source leak tests; and verified that the posting and labeling of the source was appropriate.
- The inspectors reviewed Millstone's records for the source and compared the records with the data from the NSTS inventory. The inspectors evaluated the effectiveness of Millstone's procedures for updating the inventory records.

Enclosure

Determine the Location of Unaccounted-for Nationally tracked source(s)

The inspectors verified that Dominion has no unaccounted-for source(s).

Review of Other Administrative Information

The inspectors reviewed the administrative information contained in the NSTS inventory printout with Millstone personnel. All administrative information, mailing address, docket number, and license number, was verified to be correct.

b. Findings

No findings were identified.

2. Independent Spent Fuel Storage Installation (ISFSI) Monitoring Controls (60855)

a. Inspection Scope

The inspectors reviewed routine operations and monitoring of the ISFSI. The inspectors walked down the ISFSI with a Senior Radiation Protection Technician. The inspectors performed independent dose rate measurements of the storage modules, and confirmed module temperatures were within the required limits. The inspectors also reviewed plant equipment operator logs for ISFSI surveillances and environmental ISFSI dosimetry records. Radiological control activities for the ISFSI were evaluated against 10 CFR 20, ISFSI Technical Specifications, and with Dominion's procedures.

b. Findings

No findings were identified.

4OA6 Meetings, including Exit

Exit Meeting Summary

On October 6, 2010, the resident inspectors presented the overall inspection results to Mr. A. J. Jordan and members of his staff. The inspectors confirmed that no proprietary information was provided or examined during the inspection.

On September 30, 2010, the in-service inspection inspector discussed the inspection results with Mr. A. J. Jordan, Site Vice President, and other members of his staff. The inspectors confirmed that no proprietary information was provided or examined during the inspection.

Enclosure

4OA7 Licensee Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as a NCV.

Unit-2

- 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to this, Dominion had no documented procedure for bypassing undervoltage protection for the vital buses. As a result, on October 7, 2009, Dominion bypassed the undervoltage protection for the vital buses and rendered both EDGs inoperable for approximately seven hours. Upon discovery, Dominion restored the undervoltage protection and entered the issue into their corrective action program (CR351389). The finding is of very low safety significance because of the short duration of the inoperability, and because both EDGs could be manually started from the Control Room.

Unit-3

- TS 3.6.6.2 requires that if secondary containment is inoperable, it must be restored to operable status within 24 hours or the plant must be shutdown. Contrary to this, from May 13, 2010, until May 27, 2010, two sets of auxiliary building tunnel exhaust dampers were open, which rendered secondary containment inoperable. Upon discovery, Dominion immediately restored operability by closing one set of dampers and placed the issue into their corrective action program (CR382686). The finding is of very low safety significance because it only represented a degradation of the radiological barrier function for the auxiliary building.
- 10 CFR 50 Appendix B, Criterion III, Design Control requires, in part, that measures shall be established to assure that the applicable design basis for structures, systems, and components, are correctly translated into specifications, drawings, procedures, and instructions. Contrary to this, from approximately 1995 until August 13, 2010, Dominion failed to ensure that the design basis for the reactor coolant system was maintained when it specified and installed flex hoses with an insufficient pressure rating. Upon discovery, Dominion entered the issue into their corrective action program (CR 390963), shutdown the plant, and replaced the hoses with flex hoses of the proper pressure rating. The finding is of very low safety significance because a failure of the hose would have resulted in a leak that was within the capability of the charging pumps.

Enclosure

- TS 3.7.1.2 LCO (c) requires the TDAFW pump to be operable in Mode 1. If the pump is not operable, Action Statement (c) directs restoration within 72 hours after which a plant shutdown to Mode 3 in six hours is required. Contrary to this requirement, on August 23, 2010, the TDAFW pump failed its quarterly surveillance test and a review of prior surveillance tests indicated that the pump had been inoperable since June 30, 2010 (a period of 54 days). Dominion had not properly evaluated the results of the previous surveillance test. During both of these tests, the TDAFW pump failed to produce an acceptable discharge flow rate because the charging pump discharge relief valve, 3FWA*RV45, leaked by its seat. Upon discovery, Dominion declared the TDAFW pump inoperable and promptly repaired the relief valve. Dominion entered the issue into their corrective action program (CR392003), and restored the TDAFW pump to an operable condition. The finding is of very low safety significance because the TDAFW pump was later determined to be available to support core heat removal during the period when the relief valve was degraded.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION**KEY POINTS OF CONTACT**Licensee personnel

| | |
|-----------------|--|
| E. Annino | Licensing |
| L. Armstrong | Manager, Training |
| G. Auria | Nuclear Chemistry Supervisor |
| J. Barile | System Engineer |
| B. Barron | Manager, Nuclear Oversight |
| B. Bartron | Supervisor, Licensing |
| P. Baumann | Manager, Security |
| H. Beeman | Supervisor, Nuclear Engineering |
| T. Berger | Shift Manager |
| D. Butkovich | Nuclear Maintenance Supervisor |
| C. Chapin | Assistant Operations Manager |
| C. Chatman | Unit Supervisor |
| A. Chyra | Nuclear Engineer, PRA |
| T. Cleary | Licensing Engineer |
| G. Closius | Licensing Engineer |
| L. Crone | Supervisor, Nuclear Chemistry |
| J. Dorosky | Health Physicist III |
| K. Edwards | Technician, Mechanical |
| A. Elms | Manager, Nuclear Engineering |
| B. Ferguson | QA Auditor |
| M. Finnegan | Supervisor, Health Physics, ISFSI |
| G. Gardner | Engineering |
| A. Gharakhanian | Nuclear Engineer III |
| W. Gorman | Supervisor, Instrumentation & Control |
| J. Grogan | Supervisor, Nuclear Training |
| K. Grover | Manager, Operations |
| M. Hall | Engineer, Welding |
| C. Houska | I&C Technician |
| T. Ickes | Nuclear Engineer III |
| C. Janus | Nuclear Engineer III |
| A. Jordan | Site Vice President |
| R. Kasuga | Design Engineer |
| J. Kelly | Balance of Plant Operator |
| J. Kunze | Supervisor, Nuclear Operations Support |
| J. Laine | Manager, Radiation Protection/Chemistry |
| M. Lalikos | ISI/NDE Engineering |
| R. MacManus | Director, Nuclear Station Safety & Licensing |
| J. Majewski | In-service Inspection |

Attachment

A-2

| | |
|--------------|---|
| G .Marshall | Outage and Planning Manager |
| A. McNeil | Engineer, Dominion Consulting |
| M. O'Connor | Manager, Operations |
| L. Perry Jr. | In-service Inspection |
| J.A. Price | Vice President, Nuclear Engineering |
| T. Quinley | Engineer, Mechanical Rapid Response |
| R. Riley | Supervisor, Nuclear Shift Operations Unit 3 |
| M. Roche | Senior Nuclear Chemistry Technician |
| D. Rowe | Shift Manager, Unit 3 |
| M. Sartain | Director, Engineering |
| J. Semancik | Plant Manager |
| A. Smith | Asset Management |
| S. Smith | Manager, Engineering |
| L. Spain | In-service Inspection, Corporate |
| S. Turowski | Supervisor, Health Physics Technical Services |
| M. VanHalter | Engineering |
| M. Vezzina | In-service Inspection |
| C. Vournazos | IT Specialist, Meteorological Data |
| L. Wagnecz | System Engineer |
| J. Williams | In-service Inspection |
| R. West | Engineering |
| E. York | ANII |

A-3

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

| | | |
|---------------------|-----|--|
| 05000336/2010004-01 | NCV | Failure to Promptly Identify and Correct the Source of a Unit 2 RCS Pressure Boundary Leak. |
| 05000336/2010004-02 | NCV | Failure to Perform an ASME Code-compliant Radiographic Examination on a Class 1 Weld on the Unit 2 'A' RCP Seal Cooler Piping. |
| 05000336/2010004-03 | FIN | Failure to Implement Timely Corrective Actions for a Degraded Unit 2 FRV Results in Manual Reactor Trip. |

Closed

| | | |
|---|-----|---|
| 05000423/2008-005-01 | LER | Containment Penetration Not Fully Closed During Fuel Movement |
| 05000336/2009-003 & 05000336/2009-003-01 | LER | Two Independent Diesel Generators Rendered Inoperable Due to Common Cause |
| 05000423/2010-003 | LER | Secondary Containment Rendered Inoperable Due to Misaligned Dampers |
| 05000336/2010-002 | LER | Manual Reactor Trip on High Steam Generator Water Level |
| 05000336/2009004-03 | URI | Unit 2 "A" Reactor Coolant Pump Seal Cooler Weld |

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

AOP 2560, "Storms, High Winds and High Tides," Revision 010-04
AOP 3569, "Severe Weather Conditions," Revision 016-00
COP 200.6, "Storms and Other Hazardous Phenomena (Preparation and Recovery)," Revision 002-03
SP 2665, "Building Flood Gate Inspections," Revision 005-02
CR 381901
CR 389138

Section 1R04: Equipment Alignment

OP 2308-001, "HPSI System Valve Alignment, Facility 1," Revision 000-03
OP 2326A-001, "Service Water Alignment Verification, Facility 1," Revision 000-04
OP 2326A-002, "Service Water Alignment Verification, Facility 2," Revision 000-03
OP 2346A-002, "'A' DG Pre-Start Checklist," Revision 020-06
OP 2346A-011, "'A' DG Service Water Valve Alignment," Revision 000-03
OP 2346A-012, "'A' DG Starting Air Valve Alignment," Revision 000-00
OP 2346A-013, "'A' DG Jacket Water Valve Alignment," Revision 000-02
OP 2346A-014, "'A' DG Lube Oil Valve Alignment," Revision 000-02
OP 3346A, "EDG," Revision 024-04
OP 3346A-001, "EDG – Cooling Water Valve Lineup," Revision 007
OP 3346A-003, "EDG 'A' – Lube Oil Valve Lineup," Revision 006
OP 3346A-005, "EDG 'A' – Starting Air Valve Lineup," Revision 007
OP 3346A-011, "EDG 'A' – Electrical Lineup," Revision 009
OP 3346D-001, "SBO Diesel Fuel Oil," Revision 003-01
OP 3346D-002, "SBO Diesel Air Start," Revision 003-01
OP 3346D-003, "SBO Diesel Lube Oil," Revision 003
OP 3346D-004, "SBO Diesel Cooling Water," Revision 003
OP 3346D-005, "SBO Diesel Instrument Alignment," Revision 001-01
OP 3346D-006, "SBO Diesel MCC Electrical Alignment," Revision 005
Service Water System Health Report, 1st Quarter 2010
CR-08-05435
CR335122
CR329996
MRE 010876
MRE010910
MRE010915
MRE012239
OP 3304A, "Charging and Letdown Lineup," Revision 013-03

Section 1R05: Fire Protection

Millstone Unit 2 Fire Hazards Analysis, Revision 11
Millstone Unit 2 Firefighting Strategies, April 2002
CR394110

Section 1R06: Flood Protection Measures

CR389134

CR389423

Section 1R07: Heat Sink Performance

ER-AA-HTX-1002, "Heat Exchanger Program Visual and Leak Testing," Revision 1

MP 2701J-096, "Service Water Cooled Heat Exchanger Subject to GL 89-13," Revision 007-01

Section 1R11: Licensed Operator Regualification Program

Millstone Unit 2 ES10501A, "Evaluated Simulator Exam (ES10501A)," Revision 0

EOP 35 ES-0.1, "Reactor trip Response," Revision 024

EOP 3506, "Loss of All Charging Pumps," Revision 009-01

AOP 3577, "Loss of Normal and Offsite Power to a 4.16kV Emergency Bus," Revision 001-01

OP 3272, "EOP Users Guide," Revision 008-11

OP-AP-104, "Emergency and Abnormal Operating Procedures," Revision 2

CR393073

CR395584, "Title Change needed for non-ERG based EOP 3506 from EOP designation to AOP"

CR395591, "Revision to OP 3272 EOP Users Guide Needed"

Section 1R12: Maintenance Effectiveness

AOP 2579A, "Fire Procedure for Hot Standby Appendix R Fire Area A-1," Revision 010

Emergency Safeguards Actuation System Health Report 2nd Quarter 2009 and 2010

Maintenance Rule Scoping Table for Containment Isolation

Maintenance Rule Scoping Table for Emergency Safeguards Actuation

Maintenance Rule Scoping Table for Station Electrical Service 4.16 KV

MP 3763EB, "Target Rock ¼ to 1 inch, Energize to Open, Solenoid Valve Maintenance," Revision 006-01

OP 2343, "4160 Volt Electrical Service," Revision 021-03

OP 2348A, "6900 and 4160 Volt Breaker Operation," Revision 003-01

ILRT, LLRT, and Electrical Penetrations System Health Report, 1st Quarter 2009 and 2010Station Electrical Service 4.16 KV System Health Report, 2nd Quarter 2009 and 2010

| | | |
|-----------|-----------|-----------|
| ACE014039 | MRE007283 | MRE011264 |
| ACE018138 | MRE007286 | MRE011299 |
| MRE007134 | MRE007324 | MRE011302 |
| MRE007135 | MRE007330 | MRE011750 |
| MRE007136 | MRE010154 | MRE011934 |
| MRE007138 | MRE010163 | MRE011960 |
| MRE007143 | MRE010164 | MRE011981 |
| MRE007144 | MRE010202 | MRE011983 |
| MRE007145 | MRE010236 | MRE011984 |
| MRE007210 | MRE010360 | MRE011990 |
| MRE007263 | MRE010631 | MRE011996 |
| MRE007272 | MRE010682 | MRE012004 |
| MRE007273 | MRE010717 | MRE012078 |
| MRE007280 | MRE011203 | MRE012097 |
| MRE007282 | MRE011250 | MRE012513 |

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Memorandum 15G07-A & B RSST Outage for WW1039/1040
 Project Readiness Challenge Board: "FEG 2300X15 MP3 RSST and 345 KV South Bus Outage Presentation," dated September 20, 2010
 Drawing 960000049 ESI-TP-3 345 KV System
 WM-AA-301-Attachment 11, "Medium/High Risk Contingency Plan Actions for South Bus Outage" dated September 23, 2010
 WM-AA-100, "Work Management," Revision 8
 WO 53102374532, "Remove, Repair, Test and Reinstall Relief Valve MSSFWA*RV45
 WO 53102374533, Install/Remove Freeze Seal for 3FWA*RV45"
 WO 53102375925
 MP 3762 WA, "Lonergan, D, DB and DO Series Relief Valve Maintenance", Revision 006-02
 Millstone Power Station, Unit 3 Request for Enforcement Discretion from TS 3.7.1.2(c),
 Auxiliary Feedwater System Discussion of the Need for Enforcement Discretion
 P&ID 25212-26930 Sheet 2, "Auxiliary Feedwater"
 SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02
 CR392070, "Freeze seal for M33FWA*RV45 delayed due to liquid nitrogen flow issues" dated August 21, 2010
 CR392155, "Obtain and store replacement valve for 3FWA*RV45" dated August 23, 2010
 CR392702
 CR393729
 CR395972, "Found Leaking Capacitors on new relays purchased for MP3 RSST outage"
 CR396220, "No FEG exits to evaluate PRA risk for South Bus Outage"
 CR396317, "Follow up to CR396220"

Section 1R15: Operability Evaluations

SP 2402TA, "RPS Channel 'A' Temperature Instrument Calibration," Revision 000-10
 OD-000381, "Millstone Unit 3 classification of piping as inaccessible for examination – OD Required"
 IOD-000165, "Millstone Unit 3 classification of piping as inaccessible for examination – IOD Required"
 M2-EV-10-0007, Technical Evaluation for 'A' RBCCW HX (X18) Channel Head Corrosion Problem 118, "Service Water discharge to HX and Diesel Coolers," Revision 9
 Reasonable Assurance of Safety Determination for CR 390441
 Relief Request IR-2-41, "Millstone Unit 3 – Issuance of Relief Requests IR-3-06 and IR-3-07 Regarding ASME Section XI, 2004 edition (TAC ME1258 and ME 1259)" dated February 4, 2010
 Drawing No. EP-19A-14, "Service Water Lines CW Pump House to Turbine Building, Sheet 14"
 Drawing No. 12179-CI-SW-3, "Fabrication Installation Control Drawing"
 79-176-250GP, "Service Water Discharge Header Problem 112," Revision 6
 53M20808971
 CR386265, "Millstone Unit 3 classification of piping as inaccessible for examination" dated June 29, 2010
 CR387189
 CR394968
 CR394972

Section 1R18: Plant Modifications

DCN DM2-00-0108-10

AWO 53102367016

DCN DM3-00-0145-10, "Flex hoses installed within the equalizing lines for 3RHS*MV8701A, *MV8701C, *MV8702B and MV8702C" dated August, 13, 2010

DCN DM3-00-0145-10, "Pressure Locking Equalizing Line Modification for 3RHS*MV8701A, *MV8701C, *MV8702B and MV8702C" dated August, 13, 2010

Drawing 25212-12179-00, "½" Low pressure Instrument Hose" dated March 30, 1984

CR390214, "Containment Entry for 3RCS*V2002 Leakage Verification" dated August 4, 2010

CR390963, "Flex Hoses installed in RCS System did not meet Design Requirements" dated August 11, 2010

CR393102, "AWOs needed for Restoration of temporary DCN"

Section 1R19: Post Maintenance Testing

ETE-MP-2010-0008, "Safety Significance of 3FWA*RV45 failure on Aux Feedwater Flow during a Loss of Normal Feedwater Accident," Revision 0 dated September 16, 2010

OP 2304E21-001, "'C' Charging Pump Post Maintenance Testing," Revision 000-02

SP 2402TA, "RPS Channel 'A' Temperature Instrument Calibration," Revision 000-10

SP 2606B-002, "Containment Spray Pump and Minimum Recirculation Check Valve In-service Testing, Facility 2," Revision 002-02

SP3626.10, "MCC and Rod Control Area Booster Pump 3SWP*P3A Operations Readiness Tests," Revision 008-01

SP3630A.6, "Reactor Plant Component Cooling Water Pump 3CCP*P1C Comprehensive Test," Revision 000-02

P&ID 25212-26930 Sheet 2, "Auxiliary Feedwater"

SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02

SPROC OPS09-3-004, "MCC and Rod Control Area Booster Pump 3SWP*P3A Preservice Test," Revision 000-01

MRE012402, 'C' CCP comprehensive Test results not in acceptance criteria"

WO 53102374532, "Remove, Repair, Test and Reinstall Relief Valve MSSFWA*RV45

53102247461

53102275504

53102295718

53102302988

53102309441

53102328269

53102366173

53102366248

53M20801148

CR388927, "'C' CCP comprehensive Test results not in acceptance criteria"

CR389276, "M33SWP*P3A buildup found inside suction piping"

CR389424

CR389708, "Procedure Enhancement Needed to 3626.10 following SWP*P3A SPROC"

CR3911927, "3MSS*V887 handwheel spins in the closed direction with valve closed"

CR392155, "Obtain and store replacement valve for 3FWA*RV45" dated August 23, 2010

CR392932, "During initial review of work order 53102375899 it was noted that some job steps to be performed were from a vendor's tech sheet (not approved for use on site)"

Section 1R20: Refueling and Other Outages

OP 3202, "Reactor Startup (ICCE)," Revision 021-01
OP 3203, "Plant Startup," Revision 019-11
OP 3204, "At Power Operation," Revision 017-12
OP 3206, "Plant Shutdown," Revision 011-07
OP 3207, "Reactor Shutdown," Revision 013-07

Section 1R22: Surveillance Testing

OP 2346A-004, "A' DG Data Sheet," Revision 023-08
P&ID 25212-26930 Sheet 2, "Auxiliary Feedwater"
SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02 dated June 30, 2010
SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02 dated March 10, 2010
SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02 dated April 29, 2008
SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02 dated December 12, 2006
SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02 dated July 25, 2005
SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02 dated March 9, 2004
SP 3646 A.2, "EDG 'B' Operability Tests", Revision 020
SP 3646A.2-001, "Test Data Sheet"
CR392045, "June 2010 TDAFW pump had high out of spec recirculation flow"
CR392059, "Three individuals required a fatigue assessment for work activities in progress"
CR387226
CR387395
CR387412
CR395689
CR395744
CR395933
CR396020

Section 2RS06/2RS08: Access to Radiologically Significant Areas/ Radioactive Gaseous and Liquid Effluent Treatment

Procedures

OP 2338B, Revision 8, Solid Radwaste System-Resin Transfer to SRT
OP 2338C, Revision 1, SRT Resin Transfer and Dewatering
OP 3338A, Revision 11, Radioactive Solid Waste
RW 46054, Revision 3, VECTRA Resin Drying System
MP-27-RW-PRG, Revision 1, Radioactive Waste Process Control Program
MP-24-RWQA-PRG, Revision 1, Radioactive Waste Quality Assurance Program
RPM 2.5.9, Revision 1, Dry Shielded Canister (DSC) Surveys (ISFSI)
NF-AA-NSF-101, Revision 0, ISFSI Design and Licensing Basis
SP 2669A, Revision 22, Millstone Unit 2 Outside Rounds (ISFSI Monitoring)

Nuclear Oversight Department Field Observation Reports (NODFOB)/Audit
NODFOB-10-001, 10-025, 10-007, 10-030. 10-024, 09-010

Audit 10-07, Radiological Protection and Process Control Program
Audit 09-08, Radiation Protection and Process Control Program/Chemistry
Audit 08-06, Radiological Protection and Process Control Program

Shipping Manifests

Shipment No. 09-039, LSA II
Shipment No. 09-055, LSA II
Shipment No. 09-061, LSA II
Shipment No. 10-019, LSA II
Shipment No. 10-020, LSA II

Condition Reports

393204, 393221, 393227, 385288, 384144, 381251, 167671, 373270, 350044, 125713,
136796, 120217, 120743, 339949, 342598, 368917

Miscellaneous Documents

RadWaste and Radioactive Material Shipping Logs for 2009 and 2010
2009 Millstone Annual Radioactive Effluent Release Report
Radwaste/Transportation Training Records for selected personnel
10 CFR 61 Reports for 2009, and 2010
Waste Container Inventory and Inspection Forms
Waste Storage Facility Inventory
Integrated Charging/Radwaste System Capital Improvement Strategic Plan
System Health Report 2336A, Station Sumps and Drains, 4th Quarter 2009
System Health Report 3335B, Reactor Plant Aerated Drains (Contaminated), 4th Quarter 2009
1st and 2nd Quarter 2010 Area Monitoring TLD Report
Millstone Unit 2 Interim Retire In Place/Abandoned Equipment List
Millstone Unit 3 Interim Retire In Place/Abandoned Equipment List
Radioactive Source Leak Test Survey Results
Tritium Trouble Shooting Plan 3EHM-3A-Sump 3

Section 40A1: Performance Indicator (PI) Verification

Mitigating System Performance Index Millstone Unit 2, Revision 2
Millstone Unit 2 RBCCW Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009
through 2nd Quarter 2010
Millstone Unit 2 AFW Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009
through 2nd Quarter 2010
Millstone Unit 2 HPSI Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009
through 2nd Quarter 2010
Millstone Unit 2 Containment Spray Maintenance Rule Functional Failure Evaluations 3rd
Quarter 2009 through 2nd Quarter 2010
Millstone Unit 2 Service Water Maintenance Rule Functional Failure Evaluations 3rd Quarter
2009 through 2nd Quarter 2010
Millstone Unit 2 EDG Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009
through 2nd Quarter 2010
Containment Spray System Health Report 1st Quarter 2010
High Pressure Safety Injection System Health Report 1st Quarter 2010
Auxiliary Feedwater System Health Report 1st Quarter 2010

Attachment

Reactor Building Closed Cooling Water System Health Report 1st Quarter 2010
 EDG and Fuel Oil System Health Report 4th Quarter 2009, and 1st and 2nd Quarter 2010
 Mitigating System Performance Index Millstone Unit 3, Revision 2
 Millstone Unit 3 CVCS Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009 through 3rd Quarter 2010
 Millstone Unit 3 AFW Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009 through 3rd Quarter 2010
 Millstone Unit 3 RSS Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009 through 2nd Quarter 2010
 Millstone Unit 3 High Pressure Safety Injection Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009 through 2nd Quarter 2010
 Millstone Unit 3 Service Water Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009 through 2nd Quarter 2010
 Millstone Unit 3 EDG Maintenance Rule Functional Failure Evaluations 3rd Quarter 2009 through 2nd Quarter 2010
 High Pressure Injection System Health Report 1st Quarter 2010
 Auxiliary Feedwater System Health Report 1st Quarter 2010
 EDG and Fuel Oil System Health Report 4th Quarter 2009, and 1st and 2nd Quarter 2010

Section 40A2: Identification and Resolution of Problems

Drawings

4CP-2403, Main Steam Safety Valves, Revision 2, Sheet 1
 25212-29153, 1500lb 4-N-6226-EMO-SP Gate Valve, Revision 4, Sheet 74

Calculations

94103-C-032, T-Head Evaluation for 3SIH-MV8821A/B, Revision 0
 89-094-00997ES, Millstone Unit 3 Target Thrust/Torque Calculation for 3SIH-MV8821A/B, Revision 8 and Revision 10

Work Orders

53M30406677
 53102192479

Condition Reports

| | | |
|-----------|-------------|-------------|
| CR114517 | CR348678* | CR-02-05515 |
| CR116172 | CR345114 | CR-397769* |
| CR392640 | CA143733 | CR389032 |
| CR114118 | CA140976 | CR389050 |
| CR113238 | CR317496 | CR389855 |
| CR341193 | CR354962 | 53102369020 |
| CR340803 | CR348678* | 53M30806289 |
| CR340840 | CR-02-01537 | |
| CR348595* | CR-02-01750 | |

* Generated as a result of NRC inspection.

Condition Report Engineering Disposition Form
Form DE2-DT-0473-09 dated 7/16/09

Root Cause Evaluation Reports

RCE000983, 'A' RCP RBCCW Cooling Leak, Millstone Unit 2, 7/28/09
RCE000981, 'A' Reactor Coolant Pump Seal Leakage, Millstone Unit 2

Procedures

Radiographic Examination Procedure for ASME Boiler and Pressure Vessel Code RT010, Revision 001-01, 9/8/09
Procedure PI-AA-200, Revision 8, "Corrective Action Process"
Dominion Administrative Procedure, RM-AA-101, Record Creation, Transmittal, and Retrieval, Revision 3. (Applicable to North Anna Power Station Only)
Dominion Administrative Procedure, ER-AA-RRM-100, "ASME Section XI Repair/Replacement Program Fleet Implementation Requirements," Revision 1.
Millstone Power Station Common Operating Procedure, "RCS Leakage Trending and Investigation," C OP 200.15, Revision 001, 5/13/09
Millstone Power Station Common Operating Procedure, "Reactor Coolant System Leak," AOP 2568, Revision 007-06, 4/15/09
Millstone Station Functional Administrative Procedure, Condition Report Screening and Review, MP-16-CAP-FAP01.1, Revision 003, 8/16/01
MOV 1220, MOV Testing, Revision 007-01
SP3712G, Main Steam Safety Surveillance Testing, Revision 010-02
AD-AA102, "Procedure Use and Adherence," Revision 2
MP 3721AB, "SBO Diesel 24 Month and 48 Month Required PMs," Revision 002-04
ODM "2-CH-199, RCP Bleed-off Flow Relief Valve Leakage," Revision 0
ODM "Millstone Unit 2 'B' RCP Electrical Penetration M2SWX-A2-T1 Failed LLRT Admin Limit," Revision 0
ODM "Millstone Unit 2 Transformer Oil Pump Failure continued Operation/Repair Decision Options," Revision 000
ODM000153 "Millstone Unit 2 VR11/21 Management Plan," Revision 1
OP-AA-1700, "Operations Aggregate Impact," Revision 2
Millstone Operations Aggregate Impact Report dated September 27, 2010
QA Audit Report 10-04, "Operations"
RAS0000117, "Multiple Spurious Operations," Revision 0

NDE Examination Reports (Data Sheets)

Liquid Penetrant Data Sheet, ECW 1, 2, 3, 4 Seal Cooler, dated 7/15/09 (acceptable)
Liquid Penetrant Data Sheet, ECW 2 Seal Cooler, dated 7/15/09 (unacceptable)
Liquid Penetrant Data Sheet, ECW 2 Seal Cooler partial exam, dated 7/15/09 (acceptable)
Liquid Penetrant Data Sheet, ECW 1, 3, 4 Seal Cooler, dated 7/15/09 (acceptable)
Liquid Penetrant Data Sheet, ECW 3 Seal Cooler, dated 7/15/09 (unacceptable)
Liquid Penetrant Data Sheet, ECW 3 re-exam Seal Cooler, dated 7/15/09 (acceptable)
Liquid Penetrant Data Sheet, ECW 1, 2, 4 Seal Cooler, dated 7/15/09 (acceptable)
Radiographic Report M2-2453, A RCP seal cooler leak repair, 7/17/09 (info report only)
Radiographic Report M2-2452, A RCP seal cooler leak repair, 7/16/09 (info report only)
Weld Data and Inspection Map – WO 53102266944, 9/16/09
M2 02 02270, M2 01 04504, M2-02-02270, M2-01-04540

Attachment

Miscellaneous Documents

Dominion Letter (no number) to ASME, Section XI, dated 7/30/09; "Examination Requirements Following Defect Removal and Weld Repair, IWA-4422.2.2 (e) and IWA-4520 (1998 Edition with the 2000 Addenda)"

Dominion Letter 09-ZZZ to ASME, Section XI, dated 8/11/09; "Examination Requirements Following Defect Removal and Weld Repair, IWA-4422.2.2 (e) and IWA-4520 (1998 Edition)"

ASME, Section XI Letter 09-1315 dated 8/17/09; "ASME BPVC Section XI, IWA-4422.2.2(e) and

IWA-4520, 1998 Edition with the 2009 Addenda"

ASME Section XI, Division 1, Article IWA-2000, Examination and Inspection

Dominion Letter 09-474 dated 9/22/09; Dominion Nuclear Connecticut, Inc.

Millstone Power Station Unit 2 Alternate Request RR-89-67 for the

P40A RCP Seal Cooler Return Tubing

Millstone Power Station Unit 2 and Unit 3 – NRC Inspection Reports

50-336/02-06 and 50-423/02-06

Operational Decision Making (ODM), dated 12/22/08; "A" Reactor Coolant Pump seal leakage Form NIS-2A, Repair/Replacements Certification Record, Repair Plan Number

53102266944, 5/12/10

SP 2730B, Main Steam Safety Valve Testing Unit 2 Bench Test, performed October 13, 2009, October 18, 2009, and October 21, 2009

SP 3712G, Main Steam Code Safety Valve Surveillance Testing Unit 3, performed April 8, 2010

SP 2730B, Main Steam Safety Valve Testing Unit 2, performed April 3, 2008

MA-NC1011, Vendor Manual for Main Steam Safety Valves, Revision 1

ACE014015, Apparent Cause Evaluation MSSV Test Failures, dated May 21, 2009

Pump and Valve Bases Document for 3MSS-RV24A, Revision 4

Pump and Valve Bases Document for 3SIH-MV8821A, Revision 4

DM3-00-0316-08, Conversion of Close Control Scheme of MOV 3SIH-MV8821A from Torque Switch to Limit Switch Control, dated October 20, 2008

SP 3608.6, Safety Injection Valve Stroke Testing, performed July 14, 2010

JOG FN-03, Results and Observations from Gate Valve Tests Following Valve Disassembly and Reassembly, dated February 25, 2000

TR-A716-A-1, Accuracy of Teledyne Brown Engineering Quick Stem Sensor, dated June 24, 1994

Section 4OA3: Event Follow-up

WO 53102374532, "Remove, Repair, Test and Reinstall Relief Valve MSSFWA*RV45

Millstone Unit 3 Request for Enforcement Discretion from TS 3.7.1.2(c), Auxiliary Feedwater

System Discussion of the Need for Enforcement Discretion

P&ID 25212-26930 Sheet 2, "Auxiliary Feedwater"

SP 3622.3, "TDAFW Pump Operational Readiness Test," Revision 014-02

CR351389

CR392155, "Obtain and store replacement valve for 3FWA*RV45" dated August 23, 2010

LIST OF ACRONYMS

| | |
|----------|--|
| AC | Alternating Current |
| ADAMS | Agencywide Documents Access and Management System |
| AFW | Auxiliary Feedwater |
| ALARA | As Low As Reasonably Achievable |
| AOP | Abnormal Operating Procedure |
| AOT | Allowed Outage Time |
| ASME | American Society of Mechanical Engineers |
| ASMEBPVC | American Society of Mechanical Engineers Boiler and Pressure Vessel Code |
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| CS | Containment Spray |
| DG | Diesel Generator |
| DNB | Departure from Nucleate Boiling |
| DNC | Dominion Nuclear Connecticut |
| DOT | Department of Transportation |
| DRP | Division of Reactor Projects |
| DRS | Division of Reactor Safety |
| EDG | Emergency Diesel Generator |
| EP | Emergency Preparedness |
| ESAS | Engineered Safety-Feature Actuation System |
| ESF | Engineered Safety Feature |
| FIN | Finding |
| FRV | Feedwater Regulating Valve |
| FSAR | Final Safety Analysis Report |
| HPSI | High Pressure Safety Injection |
| I&C | Instrumentation and Control |
| ID | Inside Diameter |
| IMC | Inspection Manual Chapter |
| ISI | In-service Inspection |
| ISFSI | Independent Spent Fuel Storage Installation |
| IST | In-service Testing |
| LER | Licensee Event Reports |
| MCC | Motor Control Center |
| MOV | Motor Operated Valve |
| mrem | millirem |
| MRRF | Millstone Radwaste Reduction Facility |
| MSPI | Mitigating System Performance Indication |
| MSSV | Main Steam Safety Valve |
| MWTH | Megawatts Thermal |
| NCV | Non-Cited Violation |
| NDE | Non-Destructive Examination |
| NEI | Nuclear Energy Institute |
| NRC | Nuclear Regulatory Commission |

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| | |
|-------|---|
| NSTS | National Source Tracking System |
| OD | Operability Determinations |
| OOS | Out Of Service |
| PARS | Publicly Available Records System |
| PCP | Process Control Program |
| PI | Performance Indicator |
| PI&R | Problem Identification and Resolution |
| PM | Preventive Maintenance |
| PMT | Post Maintenance Testing |
| PT | Liquid Penetrant Testing |
| RBCCW | Reactor Building Closed Cooling Water |
| RPCCW | Reactor Plant Closed Cooling Water |
| RCA | Radiologically Controlled Area |
| RCP | Reactor Coolant Pump |
| RCS | Reactor Coolant System |
| REMP | Radiological Environmental Monitoring Program |
| RHR | Residual Heat Removal |
| RPS | Reactor Program System |
| RT | Radiographic Testing |
| RWP | Radiological Work Permit |
| SBO | Station Blackout |
| SDP | Significance Determination Process |
| SG | Steam Generator |
| SIH | Safety Injection High |
| SW | Service Water |
| TDAFW | Turbine Driven Auxiliary Feedwater |
| TS | Technical Specification |
| UFSAR | Updated Final Safety Analysis Report |
| VT | Visual Test |