UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

May 8, 2015

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 05000336/2015001 AND 05000423/2015001

Dear Mr. Heacock:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Millstone Power Station (Millstone), Units 2 and 3. The enclosed inspection report documents the inspection results, which were discussed on April 29, 2015, with Mr. John Daugherty, Site Vice President, 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.

This report documents two violations of NRC requirements, both of which were of very low safety significance (Green). One of the violations was NRC-identified and the other was self-revealing. 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, consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the non-cited violations 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 Resident Inspector at Millstone. In addition, if you disagree with the cross-cutting aspect assigned to any finding, or a finding not associated with a regulatory requirement 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 Resident Inspector at Millstone.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRCs "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 component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Raymond R. McKinley, Chief
Reactor Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000336/2015001 and 05000423/2015001
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRCs "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 component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Raymond R. McKinley, Chief
Reactor Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000336/2015001 and 05000423/2015001
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

Distribution w/encl: (via email)
D. Dorman, RA
D. Lew, DRA
H. Nieh, DRP
M. Scott, DRP
R. Lorson, DRS
J. Trapp, DRS
R. McKinley, DRP
S. Shaffer, DRP
E. DiPaolo, DRP
J. DeBoer, DRP
J. Ambrosini, DRP, SRI
B. Haagensen, DRP, RI
L. McKown, DRP, RI
T. Laviolette, DRP, AA
K. MorganButler, RI OEDO
RidsNrrPMMillstone Resource
RidsNrrDorlLpl1-1 Resource
ROPreports Resource

DOCUMENT NAME: G:\DRP\BRANCH5\Reports\Final\2015\Millstone IR 2015001.docx
ADAMS Accession No. **ML15132A300**

☑ SUNSI Review		☑ Non-Sensitive ☐ Sensitive		☑ Publicly Available ☐ Non-Publicly Available	
OFFICE	RI/DRP	RI/DRP	RI/DRP		
NAME	JAmbrosini/JAA via email	SShaffer/SWS	RMcKinley/RRM		
DATE	4/29/15	4/29/15	5/8/15		

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.	50-336 and 50-423
License Nos.	DPR-65 and NPF-49
Report Nos.	05000336/2015001 and 05000423/2015001
Licensee:	Dominion Nuclear Connecticut, Inc. (Dominion)
Facility:	Millstone Power Station, Units 2 and 3
Location:	P.O. Box 128 Waterford, CT 06385
Dates:	January 1, 2015 through March 31, 2015
Inspectors:	J. Ambrosini, Sr. Resident Inspector, Division of Reactor Projects (DRP) B. Haagensen, Resident Inspector, DRP L. McKown, Resident Inspector, DRP J. Furia, Sr. Health Physics Inspector, Division of Reactor Safety K. Reid, Reactor Engineer, DRP
Approved By:	Raymond R. McKinley, Chief Reactor Projects Branch 5 Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY

IR 05000336/2015001, 05000423/2015001; 01/01/2015 – 03/31/2015; Millstone Power Station (Millstone), Units 2 and 3; Operability Determinations and Functionality Assessments, Post-Maintenance Testing.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Inspectors identified two findings of very low safety significance (Green), both of which were non-cited violations (NCVs). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 19, 2012. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Mitigating Systems

Green. The inspectors identified a Green NCV of Title 10 of the *Code of Federal Regulations* (10 CFR) 50, Appendix B, Criterion XVI, associated with Dominion's failure to promptly identify conditions adverse to quality associated with the Millstone Unit 3 Charging System (CHS) and Component Cooling Primary (CCP) area heaters which are required to support operability of the charging system when outside temperature is less than 17°F, from September 17, 2014, to February 11, 2015. Dominion completed restoration of the 'B' train CHS and CCP area heaters on February 14, 2015, and has scheduled completion of the 'A' train heater restoration for April 16, 2015.

This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding screened to be of very low safety significance (Green) as safety function of the charging system was not lost based upon the capability of the nonconforming heaters to maintain charging area temperatures greater than 65°F. Inspectors identified a cross-cutting aspect in Human Performance, Procedure Adherence, for Dominion's failure to adequately screen the condition adverse to quality upon discovery of heater failure and failure to evaluate heater maintenance history when making changes to heater preventive maintenance frequency. [H.8] (Section 1R15)

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, associated with Dominion's failure to prevent recurrence of a significant condition adverse to quality, installation of defective fuses in the Unit 2 emergency diesel generators (EDGs) from September 26, 2015, until October 23, 2015. Dominion's immediate corrective actions included replacing the defective fuses in both EDGs and assessing the extent of condition in other safety systems.

This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent

undesirable consequences. This finding screened to be of very low safety significance (Green) because the finding did not represent an actual loss of function of a single train for greater than its allowable outage time. The inspectors assigned a cross-cutting aspect in the Problem Identification and Resolution, Operating Experience, in that Dominion failed to effectively implement relevant internal and external operating experience. [P.5] (Section 1R19)

REPORT DETAILS

Summary of Plant Status

Millstone Unit 2 and 3 remained at or near 100 percent power for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors reviewed Dominion's preparations for the onset of a blizzard on January 26 and 27, 2015, at Units 2 and 3. The inspectors reviewed the implementation of adverse weather preparation procedures before the onset of and during this adverse weather condition. The inspectors walked down the EDGs and Service Water (SW) to ensure system availability. The inspectors verified that operator actions defined in Dominion's adverse weather procedure maintained the readiness of essential systems. The inspectors discussed readiness and staff availability for adverse weather response with operations and work control personnel. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

Unit 2

- 'A' Containment Spray while the 'B' Containment Spray Pump was out of service for planned maintenance on February 23

Unit 3

- 'A' Motor Driven Auxiliary Feedwater during 'B' Train surveillance test on January 26
- 'A' EDG Fuel Oil System following operability testing on February 18

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed

applicable operating procedures, system diagrams, the Updated Final Safety Analysis Report (UFSAR), Technical Specifications (TSs), work orders, condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Dominion staff had properly identified equipment issues and entered them into the corrective action program (CAP) for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 2 samples)

a. Inspection Scope

The inspectors performed a complete system walkdown of accessible portions of the following systems to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, surveillance tests, drawings, equipment line-up check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication, and hangar and support functionality. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CR and work orders to ensure Dominion appropriately evaluated and resolved any deficiencies.

Unit 2

- CHS on March 4 through March 23

Unit 3

- SW System while the ‘E’ Circulating Water Pump was being replaced on February 26 through March 3

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – 7 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Dominion controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

Unit 2

- Auxiliary Building East 480V Load Center, Fire Area A-28/R-11 on March 2
- Turbine Building West 480 V Load Center, Fire Area T-6/R-13 on March 2
- West Electrical Penetration Room, Fire Area A-8 Zone D on March 13

Unit 3

- Cable Spreading Room, Fire Area CB-8, on January 22
- Auxiliary Building 24' level on February 25
- Station blackout diesel on March 3
- Turbine Driven Auxiliary Feedwater Pump Valve Room, ESF-5, on March 5

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

.1 Annual Review of Cables Located in Underground Bunkers/Manholes

a. Inspection Scope

The inspectors conducted an inspection of underground bunkers/manholes subject to flooding that contain cables whose failure could affect risk-significant equipment. The inspectors performed walkdowns of risk-significant areas, including the Unit 3 North and South Cable Tunnels, on March 6 and 9, to verify that the cables were not submerged in water, that cables and/or splices appeared intact, and to observe the condition of cable support structures. When applicable, the inspectors verified proper sump pump operation and verified level alarm circuits were set in accordance with station procedures and calculations to ensure that the cables will not be submerged. The inspectors also ensured that drainage was provided and functioning properly in areas where dewatering devices were not installed. For those cables found submerged in water, the inspectors verified that Dominion had conducted an operability evaluation for the cables and were implementing appropriate corrective actions.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – 4 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed Unit 2 licensed operator simulator training on March 3, which included a review and exercise of immediate operator actions for a number of different initial conditions, such as stuck open spray valves, inadvertent safety injection signal, and Reactor Building Closed-Cooling Water (RBCCW) pump trip. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

The inspectors observed just in time training for planned restoration of the Unit 3 'A' turbine driven main feedwater pump on March 9. The inspectors observed the control room operators reducing reactor power to 85 percent, starting the 'A' turbine driven main feedwater pump and securing the motor driven main feedwater pump as well as feedwater and steam flow balancing evolutions. The inspectors observed focus briefings and other control room communications to verify that activities were performed in accordance with procedures and that the evolutions were controlled and coordinated in accordance with operations department standards and expectations.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed a planned swap of the Unit 3 motor driven main feedwater pump for the 'A' turbine driven main feedwater pump on February 7. The inspectors observed the control room operators reducing reactor power to 85 percent and the pump swap and flow balancing evolution. The inspectors observed focus briefings and other control room communications to verify that activities were performed in accordance with procedures and that the evolutions were controlled and coordinated in accordance with operations department standards and expectations.

The inspectors observed a quarterly turbine control and stop valve testing conducted on Unit 2 on February 21. The inspectors observed the pre-job briefings, the reduction in

power, control valve surveillance testing, and restoration of power. Additionally, the inspectors observed test performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on system, structure, or component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance work orders, and maintenance rule basis documents to ensure that Dominion was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Dominion staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Dominion staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

Unit 3

- Emergency Generator Loading Sequencer Maintenance Effectiveness on January 12

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Dominion performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Dominion personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Dominion performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Unit 2

- Emergent Yellow Risk when the Unit 3 diesel generator (DG) sequencer failed while conducting Unit 2 Reactor Protection System (RPS) matrix testing on January 12
- Emergent risk for degraded ventilation systems supplying cooling to three vital switchgear rooms on January 15
- Planned high Risk for Electrohydraulic Control (EHC) software update ETE-MP-2014-1183 on February 19
- Emergent Yellow Risk/High Risk for 383 line outage and RBCCW work on March 16

Unit 3

- Emergent Risk for extent of condition evaluation of 'A' Emergency Generator Loading Sequencer on January 21
- Emergent Risk following sprinkler head failure during 'B' EDG deluge testing with Station Blackout out of service on February 25

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 9 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

Unit 2

- RPS operability determination for replacing digital voltmeters on the RPS Calibration and Indication Panel on February 27

Unit 3

- 'A' Emergency Generator Loading Sequencer following 'B' failure on January 12
- A-24-8 Dual High-Energy Line Break & Fire Door failure to latch on January 15
- Turbine Driven Auxiliary Feedwater Pump Heat loading upon failure of room cooling on January 20
- 'B' Control Building Ventilation Chiller trip due to Low Chilled Water Cut-Out on February 1
- OD 000607, Revision 1, SW leak in supply piping on February 5
- Shutdown Margin Monitors following Environmental Qualification Part 21 Report on February 9
- Charging and Primary Closed Cooling Water Area Heater Transformers equipment environmental qualification non-conformance on February 12
- Reactor Plant Ventilation Fan, 3HVR*FN14A, Elevated Motor Currents following Filter Change-out on March 12

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to Dominion's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Dominion. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

Introduction. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, associated with Dominion's failure to promptly identify conditions adverse to quality associated with the Millstone Unit 3 CHS and CCP area heaters which are required to support operability of the charging system when outside temperature is less than 17°F, from September 17, 2014, to February 11, 2015.

Description. On September 17, 2014, during performance of 'B' train Auxiliary Building CHS and CCP Area Ventilation Heater (non-TS) surveillance testing (MP 3789AA), Dominion discovered that CHS and CCP area heater 3HVR*UHE1 failed to start (CR558986). The eight safety-related CHS and CCP area heaters are divided into two trains, 'A' and 'B', of four heaters which support operability of the respective 'A' and 'B' trains of charging. In accordance with TS 3.5.2 and Technical Requirements Manual 3.1.2.4, all four heaters in a train, 'A' or 'B', must be functional to maintain the associated charging train, 'A' or 'B', operable when outside temperatures are less than 17°F.

Inspectors identified three conditions adverse to quality related to the safety-related area heaters which challenged the reliability of the charging system as described in the design and licensing basis.

1. Inappropriate classification of a significance level 2 equipment issue as a significance level 3:

   CR558986 was screened to significance level 3 with actions to perform troubleshooting under work order 53102769964. In accordance with PI-AA-200, "Corrective Action," Revision 23, Attachment 4, "CR Significance Determination," a significance level 3 equipment issue is consistent with non-safety-related equipment problems and power block equipment issues closed to troubleshooting (i.e., not a condition adverse to quality). A significance level 2 equipment issue is consistent with abnormal failure of equipment important to safety or reliability (i.e., a condition adverse to quality). A level 2 equipment failure CR requires an equipment reliability and preventive maintenance evaluation while a level 3 does not. As of February 12, 2014, the work history of 3HVR*UHE1 contained a total of 20 work orders. Five work orders were associated with the transformer by their title. Page two of work order 53M30412132 under which the transformer was scheduled to have been replaced in 2004 to meet environmental qualification states that the transformer was not replaced.

2. Preventive maintenance interval extension without consideration of recent failure:

   On December 9, 2014, a recurring task evaluation request (P-MILL-341504) was approved in accordance with ER-AA-102, "Preventive Maintenance Program," Revision 8, to extend the frequency of the 'B' train performance of MP 3789AA from once per year to once per two years, despite the failure in September 2014. Inspectors identified that P-MILL-341504 documents the ER-AA-102 required cross-disciplinary review of the maintenance history of the 'B' train CHS and CCP heaters was performed by Operations, Maintenance, Outage & Planning, and Engineering organizations. However, there were no specific results of the review captured, technical justification for the frequency change provided, or mention of the recent identified failure of 3HVR*UHE1 in September 2014 within the approved frequency change request.

3. Failed heater transformer not tracked in accordance with seasonal weather operations procedure despite winter weather conditions:

   On January 8, 2015, Dominion discovered that the work activity to restore 3HVR*UHE1 had not been performed (CR569092). On January 9, 2015, it was identified by inspectors that the degraded condition was not tracked in accordance with the Seasonal Weather Operations procedure. Inspectors further inquired as to the extent of condition of the failed heater transformer upon the other seven CHS and CCP heaters and the charging system due to their impact upon charging system operability. Dominion concluded that the extent of condition was limited to the individual failed heater. On January 12, 2015, Dominion completed repairs to 3HVR*UHE1.

The inspectors determined that these three issues were missed opportunities for Dominion to identify potential weaknesses in the equipment reliability of the area heaters which could lead to charging system inoperability.

On February 11, 2015, Dominion performed an equipment reliability review of the maintenance history of the CHS and CCP heaters outside of the corrective action and preventive maintenance programs due to the lack of causal analysis for the failure of safety-related heater 3HVR*UHE1. During this review, Dominion discovered that all eight CHS and CCP heater transformers had exceeded their environmental qualification program life of 20.4 years in early 2014 (CR571519). Given the winter weather, the extent of the nonconforming condition of the CHS and CCP heaters presented an immediate operability challenge to the charging system. There was no actual loss of charging system safety function from September 2014 through February 2015 as the CHS and CCP area temperature remained greater than 65°F. Inspectors reviewed Dominion's prompt operability determination which determined under all analyzed conditions that there would be no loss of the charging system safety function through completion of scheduled corrective actions. Dominion completed restoration of the 'B' train CHS and CCP area heaters on February 14, 2015. Completion of corrective actions for the 'A' train heaters is scheduled for April 16, 2015.

The inspectors determined that it was reasonable for Dominion to perform this equipment reliability review upon the initial failure of the heater in September. The inspectors determined there were multiple opportunities for Dominion to identify

challenges to maintaining the design and licensing basis of the Unit 3 charging system posed by the expired environmental qualification life.

Analysis. The inspectors determined that failure to promptly identify conditions adverse to quality associated with the Millstone Unit 3 CHS and CCP area heaters was a performance deficiency that was reasonably within Dominion's ability to foresee and correct. Specifically, Dominion failed to identify the failure of heater, 3HVR*UHE1, as a condition adverse to quality during CR screening on September 17, 2014 (CR558986). Dominion failed to identify the conditions adverse to quality during heater maintenance history review when extending the frequency of the activity which identified the heater failure on December 9, 2014 (P-MILL-341504). Having failed to take timely corrective action in accordance with their winter readiness program, Dominion failed to identify the conditions adverse to quality following direct questioning by the inspectors as to the extent of condition on the other heaters on January 9, 2014 (CR569092). This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Reliability of the charging system was challenged based upon Dominion's failure to ensure that the CHS and CCP area heater transformers were maintained within their environmental qualification life during conditions in which their function was required to support charging system operability.

In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green), when all screening questions were answered "no." The safety function of the charging system was not lost based upon the capability of the nonconforming heaters to maintain charging area temperatures greater than 65°F.

The inspectors determined that this issue had a cross-cutting aspect in the Human Performance, Procedure Adherence, in that individuals failed to follow processes, procedures, and work instructions. Specifically, on September 17, 2014, Dominion failed to adequately screen CR558986 in accordance with PI-AA-200. Further, on December 2, 2014, Dominion failed to adequately evaluate the preventive maintenance history of the 'B' train CHS and CCP area heaters in accordance with ER-AA-102 [H.8].

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, states, in part, "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." Contrary to the above, from September 17, 2014, to February 11, 2015, Dominion failed to promptly identify conditions adverse to quality, abnormal failure of equipment important to safety or reliability and nonconformance of environmental qualifications, of the CHS and CCP area heater transformers which are required to support operability of both trains of the charging system when outside temperature is less than 17°F. Because this issue is of very low safety significance (Green) and Dominion has taken corrective action and entered this issue into their CAP (CR571519), this finding is being treated as an NCV consistent with the NRC Enforcement Policy Section 2.3.2. **(NCV 05000423/2015001-01, Failure to Identify**

Charging and Primary Closed Cooling Water Area Heater Transformers Equipment Environmental Qualification Non-Conformance)

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests (PMTs) for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

Unit 2

- PMT following 'A' EDG Overhaul on January 14
- PMT for replacement of RPS Calibration and Instrument Panel digital voltmeters on March 2
- PMT for 'B' EDG repairs on the Jacket Water Heat Exchanger on March 27

Unit 3

- Retest following corrective maintenance on the Reactor Plant Closed Cooling Water containment isolation valve 3CCP*MOV45A on March 11
- 'B' EDG Loading Sequencer failure on January 12
- Reactor Plant Ventilation Fan, 3HVR*FN14A, Elevated Motor Currents following filter change-out on March 13

b. Findings

Introduction. The inspectors identified a self-revealing Green NCV of 10 CFR 50, Appendix B, Criteria XVI, associated with Dominion's failure to prevent the recurrence of a significant condition adverse to quality associated with the installation of defective Bussmann fuses in the 'A' EDG that prevented the EDG from reliably providing emergency power to Emergency Safeguards Features components between September 26, 2014, and October 23, 2014.

Description. On October 21, 2015, Dominion control room operators identified the auto voltage control light on the main control board for the 'A' EDG was not lit indicating that the automatic voltage regulator was not operable. The control room operators declared the 'A' EDG to be inoperable and entered the action statement for TS 3.8.1.1 (b) which allowed 72 hours to identify and correct the problem. Initial troubleshooting determined that the power supply was intermittently making continuity with the automatic voltage regulator control circuit. The technicians initially attributed the cause to a loose terminal block for fuse FU5. The terminal block was tightened restoring power to the circuit. The

'A' EDG subsequently failed the PMT on October 22, 2015, when the field failed to flash and the generator did not achieve output voltage.

Further troubleshooting efforts concluded that fuses FU5 and FU7 were failing intermittently when mechanically agitated. These fuses were identified as Bussmann type KWN-R-10 fuses that had been the subjects of extensive NRC generic operating experience communications (Part 21 notifications) and industry operating experience reports from 2004 to 2008. These communications had informed Millstone that all Bussmann fuses manufactured between certain dates were susceptible to an internal manufacturing defect that could cause intermittent connectivity and should be either replaced or individually tested to verify that the fuse did not have the defect. Fuses FU5 and FU7 were subsequently determined by forensic analysis to have contained this manufacturing defect; inadequate solder adherence between the fusible element and the fuse end cap.

In January 2015, Dominion received a report from an independent testing laboratory confirming that both FU5 and FU7 contained the manufacturing defect (cold solder connections between the fusible link and the fuse end cap), known to be problematic in Bussmann fuses, which caused an intermittent loss of connectivity. Dominion's earlier assessment and response to the Part 21 notifications and industry operating experience investigations was narrowly focused in scope and should have been expanded to consider the entire at-risk population of Bussmann KWN-R fuses.

On two prior occasions in 2010, a similar intermittent connectivity problem had occurred on the Unit 2 'A' EDG automatic voltage regulator control circuit that, at the time, was attributed to loose wiring connections in terminal block for fuse FU7. Initially, Dominion had corrected the problem by tightening the terminal block connections restoring power continuity (CR397817). However; one month later, the same problem recurred and Dominion identified (CR402056/CA183787) that fuse FU7 was losing internal connectivity when tapped. FU7 was subsequently replaced with another defective Bussmann KWN-R-10 fuse. At the time, Dominion did not recognize that this failure was caused by the Bussmann fuse manufacturing defect that had been the subject of the operating experience reports. Subsequently, in March 2015, the inspectors identified that Dominion failed to recognize the cause of the fuse failure and therefore had not prevented the recurrence of a significant condition adverse to quality.

The 2010 CR (CR402056) was screened to significance level 3 under PI-AA-200, "Corrective Actions," and closed to work order 53102391907 which tightened the fuse holder terminal blocks and replaced fuse FU7. By failing to properly evaluate the prior operating experience on Bussmann KWN-R fuses, Dominion failed to identify a significant condition adverse to quality. PI-AA-200, Attachment 4, states that a significance level 2 is appropriate for unplanned reductions in nuclear safety margin such as an inoperable train of a safety system. Attachment 5 states that root cause evaluation should be considered for equipment defects that are significance level 2 that are subject to the maintenance rule. DOM-QA-1, "Nuclear Facility Quality Assurance Program Description," states that significant conditions adverse to quality shall be prevented. Per Dominion procedures, a root cause evaluation is the appropriate process to be used to ensure that corrective actions to prevent recurrence are properly identified.

Dominion concluded that the 'A' EDG contained Bussmann fuses that evidenced a known manufacturing defect. The 'B' EDG also had similar Bussmann fuses installed in the same circuitry and was susceptible to common mode failure. Dominion also recognized that these potentially defective Bussmann fuses were also installed in other safety-related equipment. As of the end of this reporting period, Dominion is assessing the extent of condition and has assigned immediate corrective actions in CR562861 and CR562887.

Analysis. The inspectors determined that the failure to prevent the recurrence of a significant condition adverse to quality associated with the installation of defective fuses in the 'A' EDG was a performance deficiency that was reasonably within Dominion's ability to foresee and prevent. Specifically, Dominion failed to prevent the recurrence of the failure of the 'A' EDG caused by the installation of defective Bussmann type KWN-R fuses in the 'A' EDG field flash and voltage regulator control circuits from October 2010 (CR402056 and CA183787) until October 2014 (CR562861 and CR562887). This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

In accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating Systems, Structures or Components and Functionality," the finding screened to be of very low safety significance (Green) because the finding did not represent an actual loss of function of a single train for greater than its allowable outage time. This finding has a cross-cutting aspect in the Problem Identification and Resolution, Operating Experience, in that Dominion failed to effectively implement relevant internal and external operating experience. Specifically, Dominion failed to adequately screen NRC Part 21 reports (Event Reports 42021 in 2005, and 44634 in 2008) and NRC Information Notice 2006-05, as well as external industry operating experience reports OE199034 (Pilgrim 2002), OE208987 (Pilgrim 2004), OE21214 (Pilgrim 2005), OE217203 (Pilgrim 2005), and OE230674 (Watt's Bar 2008). Subsequently, Dominion failed to recognize a significant condition adverse to quality in October 2010 (CR402056); that defective Bussmann fuses had been installed in the 'A' EDG. [P.5]

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, states, in part, "Measures shall be established to prevent recurrence of significant conditions adverse to quality." Contrary to the above, from October 2010 to October 23, 2015, Dominion failed to prevent a significant condition adverse to quality, the loss of reliability of the Unit 2 EDGs, because of the installation of Bussmann type KWN-R fuses that contained a known internal defect. Because this issue is of very low safety significance (Green) and Dominion has taken immediate corrective action and entered this issue into their CAP (CR562861 and CR562887) for further assessment, this finding is being treated as an NCV consistent with the NRC Enforcement Policy Section 2.3.2. **(NCV 05000336/2015001-02, Failure to Replace Defective Fuses in the 'A' EDG Resulting in Generator Failure)**

1R22 Surveillance Testing (71111.22 – 10 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TS, the UFSAR, and Dominion procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

Unit 2

- SP 2613K 'A' EDG Surveillance Test on March 11
- SP 2613M DG operability test, Safety Injection Actuation Signal start of 'B' EDG on January 16
- CP 2802N Reactor Coolant System (RCS) coolant sample surveillance for Performance Indicator (PI) BI01 and SP 2602A Reactor Coolant Leakage for PI BI02 and on March 27

Unit 3

- 'B' EDG operability test on January 6
- Turbine Driven Auxiliary Feedwater enhanced monitoring frequency surveillance test on January 13
- 'B' Motor Driven Auxiliary Feedwater surveillance test on January 26
- 'B' SW Pump Quarterly operability test on February 6
- 'A' Residual Heat Removal Pump Train In-service testing program test on February 11
- Turbine Driven Auxiliary Feedwater enhanced monitoring frequency surveillance test on February 19
- RCS activity sample on March 31

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 sample)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine Dominion emergency drill on March 17 to identify any weaknesses and deficiencies in the classification, notification,

and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, technical support center, and operations support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by Dominion staff in order to evaluate Dominion's critique and to verify whether the Dominion staff was properly identifying weaknesses and entering them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Public and Occupational Safety

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08 – 1 sample)

a. Inspection Scope

During January 12–16, 2015, the inspectors reviewed the effectiveness of Dominion's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 49 CFR Parts 170-177; 10 CFR Parts 20, 61, and 71; applicable industry standards; and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted an in-office review of the solid radioactive waste system description in the final safety analysis report, the Process Control Program, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed. The inspectors reviewed the scope of quality assurance audits performed for this area since the last inspection.

Radioactive Material Storage

The inspectors inspected areas where containers of radioactive waste were stored, including the Millstone Radwaste Reduction Facility and Warehouse 9 (Building 409). The inspectors reviewed Dominion's established process for monitoring the impact of long-term storage.

Radioactive Waste System Walk-down

The inspectors walked down areas of the plant, and reviewed:

- accessible portions of liquid and solid radioactive waste processing systems to verify current system alignment and material condition
- radioactive waste processing equipment that was abandoned in place, and reviewed the controls in place to ensure protection of personnel

- changes made to the radioactive waste processing systems since the last inspection
- processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers
- current methods and procedures for dewatering radioactive waste

Waste Characterization and Classification

The inspectors identified radioactive waste streams and reviewed radiochemical sample analysis results to support radioactive waste characterization. The inspectors reviewed the use of scaling factors and calculations to account for difficult-to-measure radionuclides in radioactive wastes.

Shipment Preparation

The inspectors reviewed the records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness.

Shipping Records

The inspectors reviewed selected non-excepted package shipment records.

Identification and Resolution of Problems

The inspectors reviewed problems associated with radioactive waste processing, handling, storage, and transportation, and were addressed for resolution in Dominion's CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 RCS Specific Activity and RCS Leak Rate (2 samples)

a. Inspection Scope

The inspectors reviewed Dominion's submittal for the RCS specific activity and RCS leak rate PIs for both Unit 2 and Unit 3 for the period of April 1, 2014 through March 31, 2015. To determine the accuracy of the PI data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed RCS sample analysis and control room logs of daily measurements of RCS leakage, and compared that information to the data reported by the PI. Additionally, the inspectors observed surveillance activities that determined the RCS identified leakage rate, and chemistry personnel taking and analyzing an RCS sample.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, “Problem Identification and Resolution,” the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Dominion entered issues into their CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On April 29, 2015, the inspectors presented the inspection results to Mr. John Daugherty, Site Vice President, and other members of the Millstone staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

M. Adams	Plant Manager
P. Anastas	Equipment Environmental Qualification Program Engineer
J. Ashburn	Unit 2 Shift Manager
G. Auria	Nuclear Chemistry Supervisor
B. Bartron	Supervisor, Licensing
P. Baumann	Manager, Nuclear Protection Services
D. Blakeney	Director, Nuclear Station Safety & Licensing
T. Berger	Unit 3 Shift Manager
S. Brabec	Nuclear Specialist, Maintenance
J. Brown	Unit 2 Shift Manager
R. Castillo	Nuclear Access Specialist
A. Chapman	Unit 2 Reactor Operator (OTAC)
W. Chestnut	Supervisor, Nuclear Shift Operations Unit 2
F. Cietek	Nuclear Engineer, PRA
T. Cleary	Licensing Engineer
G. Closius	Licensing Engineer
L. Crone	Supervisor, Nuclear Chemistry
J. Curling	Manager, Protection Services
J. Daugherty	Site Vice President
J. Dorosky	Health Physicist III
M. Finnegan	Supervisor, Health Physics, ISFSI
P. Freeman	Electrical Maintenance Technician
M. Furiosi	Senior Training Instructor
M. Garza	Unit 2 Shift Manager
J. Gardner	System Engineer
B. Gaynier	Unit 2 Shift Manager
A. Gharakhanian	Nuclear Engineer III
M. Goolsbey	Unit 2 Operations Manager
W. Gorman	Supervisor, Instrumentation & Control
M. Greaney	Supervisor, Nuclear Maintenance
A. Harris	Unit 2 Control Operator (test operator)
C. Houska	I&C Technician
J. Huff	Unit 2 Senior Reactor Operator
N. Kostopulous	Unit 2 Unit Supervisor
J. Kruse	Shipper
J. Laine	Manager, Radiation Protection/Chemistry
A. Leone	Unit 2 unit Supervisor
G. Marshall	Manager, Outage and Planning
W. McCollum	Unit 2 Shift Technical Advisor
M. Morrisette	Unit 2 Control Operator
M. Paine	Unit 2 Chemistry Technician
J. Palmer	Manager, Training
J. Rein	Emergency Preparedness Specialist IV
J. Rigatti	Manager, Nuclear Site Engineering

T. Rigny	Supervisor, Emergency Preparedness
M. Roche	Senior Nuclear Chemistry Technician
T. Ryan	Mechanical Maintenance Technician
L. Salyards	Licensing, Nuclear Technology Specialist
C. Sanders	Unit 2 Control Operator
M. Sanders	Emergency Preparedness Specialist IV
J. Shaffer	Unit 2 Chemistry Technician
D. Smith	Manager, Emergency Preparedness
S. Smith	Manager, Nuclear Operations
J. Stilphen	Unit 2 Control Operator
J. Stoddard	Supervisor, Nuclear Shift Operations Unit 3
S. Turowski	Supervisor, Health Physics Technical Services
C. Vournazos	IT Specialist, Meteorological Data
J. Wasilyk	Unit 2 Shift Manager and SNSO
M. Watson	Unit 2 Unit Supervisor
V. Wessling	Unit 2 Unit Supervisor (Reactivity SRO)
B. Wilkens	Millstone Power Station Fire Marshal
M. Wood	Radiation Protection Supervisor
N. Vuono	Unit 2 Chemistry Technician
A. Zumo	Work Week Coordinator

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000423/2015001-01	NCV	Failure to Identify Charging and Primary Closed Cooling Water Area Heater Transformers Equipment Environmental Qualification Non-Conformance (Section 1R15)
05000336/2015001-02	NCV	Failure to Replace Defective Fuses in the 'A' EDG Resulting in Generator Failure (Section 1R19)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
AOP 2560, Storms, High Winds and High Tides, Revision 010-17
AOP 3569, Severe Weather Conditions, Revision 019

C OP 200.6, Storms and Other Hazardous Phenomena (Preparation and Recovery), Revision 003-01
C OP 200.13, Seasonal Weather Operations, Revision 004-04
C OP 200.13-003, Unit 3 Cold Weather Preparation Checklist, Revision 001-01
OP 2266, Response to Low or high Outside Air Temperature, Revision 001-04
OP 2268, Cold Weather Operation, Revision 005-04

Condition Reports

570425	570422	570400
570659	570398	571032

Miscellaneous
MP-26-EPA-REF08B, Millstone Emergency Planning Resource Book, Revision 039

Section 1R04: Equipment Alignment

Procedures
OP 2309, CS System Valve Alignment Verification, Facility 1, Revision 000-06
OP 2307, Common ECCS Suction Header Valve Alignment, Facility 1, Revision 000-03
OP 2309, Containment Spray System, Revision 011-02
OP 3326, SW System, Revision 024-07
OP 2304A, Volume Control Portion of CVCS, Revision 023
OP 2304A, Placing the CVCS in Operation from Reactor Coolant Loop to VCT, Revision 017
OP 3322, Auxiliary Feedwater System, Revision 021-29
OP 3322-002, Auxiliary Feedwater Train A, Revision 006-04

Condition Reports

561473 and CA 294298	572074
573159	572148

Drawings
25203-26015, LP Safety Injection System, Revision 45
25203-26017, Charging System, Sheet 1, Revision 61
25203-26017, Charging System, Sheet 2, Revision 37
25203-26017, Charging System, Sheet 3, Revision 45
FSAR Figure 9.2-1, Chemical and Volume Control System, Flow Schematic (Normal Operations), Revision 22.6
25212-26916, Emergency Diesel Generator A Starting Air System, Sheet 2, Revision 39
25212-26917, Emergency Generator Fuel Oil System, Sheet 1, Revision 23
25212-26930, Feedwater System, Sheet 2, Revision 48
25212-26933, SW, Sheet 2, Revision 89

Maintenance Orders/Work Orders
53102766685

Miscellaneous
SO-14-016, Standing Order for Charging Pumps and ECCS Requirements, Dated May 11, 2014
OD000582, Prompt Operability Determination Revision 0
Lesson Plan Drawings on CVCS Figure 2A and 2C
Tagout EGS01-0001 (Group 3C17)

Section 1R05: Fire Protection

Procedures
CM-AA-FPA-100, Fire Protection/Appendix R (Fire Safe Shutdown) Program, Revision 9
U2-24-FPP-FHA, Millstone Unit 2 Fire Hazards Analysis, Revision 12
U2-24-FFS, Millstone Unit 2 Firefighting Strategies, Revision 0
U3-24-FFS, Millstone Unit 3 Firefighting Strategies, Revision 0
Millstone Unit 3 Fire Protection Program Evaluation Report, Revision 17.4

Condition Reports

570120	573271
570124	573241

Drawings
25212-24261, Fire Hazard Analysis, Plan EL 24'-6", Revision 19

Miscellaneous
FP-EV-98-0002 Technical Evaluation for Potential Loss of HVAC in the East 480V Load Center Room due to a Fire and Subsequent Fire Damper Closure in the West 480V Load Center Room.
FP-EV-98-0042 Technical Evaluation for the Separation of Millstone Unit 2 Turbine Building and Unit 1 Turnover Areas/Turbine Building (Old Evaluation #75).
FP-EV-98-0047 Technical Evaluation for Penetration Seals in the Floor of the Turbine Building's 480V Load Center Room at Elevation 36'6" (Old Evaluation #101).

Section 1R06: Flood Protection Measures

Condition Reports
573225
573405

Miscellaneous
25212-24261 Fire Hazard Analysis, Plan EL 3'-8", Revision 6
Work Order 53102751265

Section 1R11: Licensed Operator Requalification Program

Procedures
OP 3321, Main Feedwater, Revision 019-05
OP 3319A, Condensate System, Revision 019-06
OP 3321, Main Feedwater, Revision 019-07
OP 3204, At Power Operation, Revision 019-02
OP 2204, Load Changes, Revision 026
SP 2651L, Main Stop Valve Operability Test, Revision 004-01
SP 2651M, Combined Intermediate Valves Operability Test, Revision 004-01
SP 2651N, Main Control Valve Operability Test, Revision 005-03
AOP 2585, Immediate Operator Actions, Revision 1
AOP 2571, Inadvertent ESFAS Actuation, Revision 005-04
AOP 2564, Loss of RBCCW, Revision 004-05

Condition Reports

571255	572272	573644
571258	572276	573431
571259	572292	
571229	572320	

Miscellaneous
Dominion Nuclear Operations Standards and Expectations Handbook
Reactivity Plan, MFW Pump Swap – Rev. 0

Section 1R12: Maintenance Effectiveness

Condition Reports

569271	569363
569281	549365

Work Orders
53M30407267
53102806920

Drawings
25212-39427 SH34, Emergency Generator Loading Sequencer Assembly, Revision F
25212-39427 SH136, Sequencer Electrical Schematic, Revision H

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
OP 2315D 4160 VAC Vital Electrical Switchgear Room Cooling Systems, Revision 014-00
IC 400.05-002
WM-AA-301, Operational Risk Assessment, Revision 11
SP 3614A.4, Fire Protection Water System Functional Test and Deluge Spray Nozzle Operability, Revision 012-10
SP 3641A.4-008, Functional Check of Train 'B' Deluge and Sprinkler Systems, Revision 000

Condition Reports

551564	569271	572624
568462	569281	572776
568741	569363	572610
569509	549365	
557074	572548	

Miscellaneous
eOOS Operator Risk Report for January 12, 2015
Scheduler's Evaluation for Millstone Unit 2 for the week of January 12, 2015
Control Room and Engineering Log entries for January 11-12, 2015
TRM 3/4.8.2, Onsite Power AC Distribution Systems, Electrical Switchgear Ventilation
Training System Description – BOP Ventilation
eOOS Operator Risk Reports Scenarios for Compensatory Cooling Scenarios
ETE-MP-2014-1183, Main Turbine EHC Software Modifications, Revision 0
Email, Nathan Dunn, GE Controls Service manager to D. Russo, September 12, 2014, SUBJ Instructions for Turning Off the Internal Data Logger

POD by Early Start, Scheduler's Risk Evaluation for March 16
eOOS Operators Risk Reports for March 16
eOOS Operators Risk Reports for January 21

Work Orders
53102771335
53M30407267
53102806920
53102807144

Drawings
DWG 25203-20135, SH.100, Service Water Supply and Return to Vital Switchgears Cooling Coils Cooling X181A & B, 3"-HUD-130 & 131, 3"-HLD-1&2, Revision 8
DWG 25203-20152 SH.394, Service Water to Vital Switchgear Room HUD-32, Revision 17
DWG 25203-26008, Service Water to Vital AC Switchgear Cooling Coil and AC Chillers, 25203-
DWG 26022 Sheet 1, RBCCW System – Pumps and Heat Exchangers, Revision 45
DWG 25203-26022 Sheet 2, RBCCW System – Pumps and Heat Exchangers, Revision 26
25212-39427 SH34, Emergency Generator Loading Sequencer Assembly, Revision F
25212-39427 SH136, Sequencer Electrical Schematic, Revision H

Section 1R15: Operability Evaluations

Procedures
SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration, Revision 016-04
SP 2601D-001, Power Range Safety Channel and Delta T Power Channel Calibration, Revision 016-01
IC 2417UA, RPSCIP Meter Input Switch Replacement, Revision 002-03

Condition Reports

569043	572534	569556
571059	572609	558986
571269	572751	569092
571320	572847	571519
571495	570737	571319
571719	573977	570146
571842	569271	572703
572039	569281	CA 219837
572530	569363	CA 296757
572302	549365	CA 296759
572532	567369	566507

Maintenance Orders/Work Orders

53102814486	53102821415	53102698820	53102638683
53102553283	53M30407267	53102806920	53102807144
53102808442	53102769964	53102672054	

Miscellaneous
IEE 10000012374, Newport Electronics DC Voltmeter, 2000AS to 20004-4, Revision 01
Newport US product Sheet DC Voltmeter, Ammeter, indicator/Controller Q2000A/B, March 2, 2015

Newport US product Sheet DC Voltmeter, with BCD Output 2004, March 2, 2015
RPS System Description Lesson Plan
ETE-MP-2015-1029, Revision 0
25212-26948, Reactor Plant Ventilation, Sheet 2, Revision 28
25212-39427 SH34, Emergency Generator Loading Sequencer Assembly, Revision F
25212-39427 SH136, Sequencer Electrical Schematic, Revision H
Event Report Number 50737
P-MILL-341504, Preventive Maintenance Frequency Change Request
OD 000614, Revision 0
ETE-MP-2015-1015, Revision 0
EQR 235-0-1, Equipment Qualification Record for 3HVR*UHE1, 2A, 3A, 4, 5, 6, 7, 8, Revision 8
ER-AA-102, Preventive Maintenance Program, Revision 8
PI-AA-200, Corrective Action, Revision 23
MP 3789AA, Auxiliary Building CHS and CCP Area Ventilation Heater Surveillance Testing, Revision 003-02
ETE-MP-2014-1240, Rev 0. Calculating Galvanic Corrosion Rates for Service Water Piping Using EPRI Report 10081814, "Predictive Model for Galvanic Corrosion."
Drawing WF ISO 3SWP-27, Rev 5, Service Water Section
Prompt Operability Determination OD000607, dated 12/04/2014
American Society of Mechanical Engineers Code Case N-513-3
Procedure ER-MP-NDE-UT-725, Rev 0. Ultrasonic Examination of Ferritic Piping Materials to Monitor the Growth of Corrosion

Section 1R19: Post-Maintenance Testing

Procedures
SP 2346A-004, 'A' EDG Data Sheet, Revision 024-02
SP 2661A-001, 'A' Emergency DG Overspeed Trip Test, Revision 000-10
SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration, Revision 016-04
SP 2601D-001, Power Range Safety Channel and Delta T Power Channel Calibration, Revision 016-01
IC 2417UA, RPSCIP Meter Input Switch Replacement, Revision 002-03
SP 3630A.7, 'A' Train Reactor Plant Closed Cooling Water Valve Remote Position Indication Verification – Valves Outside Containment, Revision 001-01
SP 2613B, Diesel Generator Operability Tests, Facility 2, Revision 023-12
SP 2613B-001, Periodic DG Operability Test, Facility 2 (Fast Start, Loaded Run), Revision 021-09
OP 2346C-002, "B" DG Data Sheet, Revision 002-03
SP 2624B, "B" Emergency Diesel Generator Auxiliaries, Revision 002-07

Condition Reports

568873	571269	572534
568878	571320	572609
568899	571495	572751
569040	571719	572847
569433	571842	573454
569434	572039	451552
569440	572530	575388
569043	572302	569271
571059	572532	569281

569363	573977	575328
549365	575168	

Maintenance Orders/Work Orders

53102328182	53102660707	53102743252	53M208205676
53M20805677	53M20805692	53102329095	50102529021
53102754208	53102747437	53102747492	53102747783
53102814486	53102821415	53102824581	53M30513624
53M30407267	53102806920	53102807144	53102553283

Miscellaneous

BP-FL-FRAGNET 1503 U2-A EDG 1, "A" EDG Overhaul, Printed January 14, 2015
ACE019821, Unexpected indications observed during diesel slow start, initiated on October 23, 2014
ETE-MP-2014-1183, Main Turbine EHC Software Modifications, Revision 0
Email, Nathan Dunn, GE Controls Service manager to D. Russo, September 12, 2014, SUBJ Instructions for Turning Off the Internal Data Logger
IEE 10000012374, Newport Electronics DC Voltmeter, 2000AS to 20004-4, Revision 01
Newport US product Sheet DC Voltmeter, Ammeter, indicator/Controller Q2000A/B, March 2, 2015
Newport US product Sheet DC Voltmeter, with BCD Output 2004, March 2, 2015
RPS System Description Lesson Plan
Calculation 89-094-01070M3, MP3 Target Thrust/Torque Calculation For 3CCP*MOV45A and 3CCP*MOV45B, Revision 5
25212-39427 SH34, Emergency Generator Loading Sequencer Assembly, Revision F
25212-39427 SH136, Sequencer Electrical Schematic, Revision H
25212-26948, Reactor Plant Ventilation, Sheet 2, Revision 28
ETE-MP-2015-1029, Revision 0

Section 1R22: Surveillance Testing

Procedures

SP 3622.2, Auxiliary Feedwater Pump 3 FWQ*P1B Operational Readiness Test, Revision 017
SP 3622.2-001, Auxiliary Feedwater Pump 3FWA*P1B IST Group B Pump Test, Revision 014-05
SP 2613M, Periodic DG Operability Test, Facility 1 (SIAS Start), Revision 000-07
CP 2802N, Primary Coolant Sample and Analysis, Revision 001-06
CP 2802A-006, Mode 1 and Mode 2 Reactor Coolant Daily Analysis, Revision 003-00
CP 2802A-007, Mode 1 and 2 Reactor Coolant 72 Hours Analysis, Revision 001-05
SP 2602A, Reactor Coolant Leakage, Revision 006-04
OP 2346A-002, "A" DG Pre-start Checklist, Revision 020-11
OP 2346A-004, "A" DG Data Sheet, revision 024-02
SP 2613K-001, Periodic Slow Start "A" DG Operability Test, Revision 04-03
SP 2619G-002, TS 3.8.1.1.b – One EDG Inoperable, Revision 002-01
SP 2624A-001, "A" EDG Starting Air Valves IST, Revision 000-04
SP 2670-004, Diesel Generator 'A' Hx D/P Determination, Revision 001-05
SP 2602A-001, Manual RCS Leak rate Determination, Revision 006-02
SP 3610A.1, Residual Heat Removal Pump 3RHS*P1A, Revision 013-02
SP 3610A.1-001, 3RHS*P1A Quarterly IST Pump Test in Mode 1,2,3, or in Mode 4 (when aligned for injection), Revision 011-01

SP 3646A.2, Emergency Diesel Generator B Operability Test, Revision 019-06
SP 3646A.2-001, Emergency Diesel Generator B Operability Test, Revision 020-09
SP 3626.5-011, Service Water Pump 3SWP*P1B Comprehensive Test, Revision 000-04
SP 3626.5-011, Service Water Pump 3SWP*P1B Operability Test, Revision 013-04
SP 3622.3, Auxiliary Feedwater Pump 3 FWQ*P2 Operational Readiness Test, Revision 017-27
SP 3622.3-001, Auxiliary Feedwater Pump 3FWA*P2 IST Group B Pump Test, Revision 014-13
CP 3807F, Operation of the Reactor Plant Sample Sink, Revision 006-05
SP 3855, Reactor Coolant Analysis for Dose Equivalent I-131, Revision 008-00
CP 3802A-008, Mode 1 and 2 Reactor Coolant Daily Analyses, Revision 001-01

Condition Reports
557307
568819
568132

Miscellaneous
WO 53102757609
WO 53102761321
09-IST-04441M3, Revision 0
U3-24-IST-ISTBD, MP3 IST Basis Document, Revision 4
25212-26912, Low Pressure Safety Injection, Sheet 1, Revision 50
WO 53102752040
WO 53102752071
WO 53102644982
WO 53102758898

Section 1EP6: Drill Evaluation

Procedures
EOP 2525, Standard Post Trip Actions, Revision 026-00
EOP 2536, Excessive Steam Demand, Revision 026-00
EOP 2540, Functional Recovery, Revision 024-00
AOP 2512, Loss of All Charging, Revision 01-07
MP-26-EPI-FAP01, Control Room Emergency Operations, Revision 006
MP-26-EPI-FAP01-001, Control Room Director of Station Emergency Operations (CR-DSEO), Revision 013
MP-26-EPI-FAP01-002, Manager of Control Room Operations (MRCO), Revision 007
MP-26-EPI-FAP01-004, Control Room Emergency Communicator, Revision 001
MP-26-EPI-FAP06, Classification and PARs, Revision

Condition Reports

574501	575131	575141
574635	575137	575149
575127	575139	
575129	575140	

Miscellaneous
Millstone Power Station Unit 2 Training Drill MMAR15TD dated March 18, 2015

Section 2RS8: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Nuclear Oversight Audit Report 14-06, RP/ PCP/ Chemistry
Nuclear Oversight Field Observations: 1/9/13; 2/19/13; 2/22/13; 2/5/14; 2/25/14; 101/10/14

Procedures:
RW 46041, Rev 7, Compliance with 10CFR61 – Waste Classification
MP-27-RW-PRG, Rev 2, Radioactive Waste Process Control Program (PCP)
NRC/DOT Radioactive Waste Packaging, Transportation and Disposal Training (Energy Solutions)

Condition Reports:

568610	506807	507462	530185
555622	558974	560349	566725
567540	567751		

Teledyne Reports of Analysis: U-1 DAW; U-2 CW Resin; U-2 DAW; U-2 L10/L20; U-2 L16 Filter; U-2 L18; U-2 TriNuc; U-2 Resin; U-3 DAW; U-3 CHS Filter; U-3 LWS Filter; U-3 Resin; U-3 SFP Cooling Filter; U-3 SFP Cleaning Filter; U-3 TriNuc

Radioactive Material Shipments: 12-080; 13-091; 14-102; 13-048; 13-047; 13-018

Section 4OA1: Performance Indicator Verification

Mode 1 and 2 Reactor Coolant Daily Analyses
Nuclear Energy Institute Document 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7
NRC PI data for April 1, 2014 through March 31, 2015

LIST OF ACRONYMS

CAP	Corrective Action Program
CCP	Component Cooling Primary
CFR	Code of Federal Regulations
CHS	Charging System
CR	Condition Reports
Dominion	Dominion Nuclear Connecticut, Inc.
DRP	Division of Reactor Projects
DG	Diesel Generator
EDG	Emergency Diesel Generator
EHC	Electrohydraulic Control
IMC	Inspection Manual Chapter
Millstone	Millstone Power Station
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
PMT	Post Maintenance Testing
RBCCW	Reactor Building Closed-Cooling Water
RCS	Reactor Coolant System
RPS	Reactor Protection System
SSC	Structure, System, or Component
SW	Service Water
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report