



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I**
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

July 23, 2012

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
05000336/2012003 AND 05000423/2012003**

Dear Mr. Heacock:

On June 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Millstone Power Station, Units 2 and 3. The enclosed inspection report documents the inspection results, which were discussed on July 16, 2012 with Stephen E. Scace, 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 one NRC-identified finding of very low safety significance (Green). This finding was determined not to involve violations of NRC requirements. Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy. If you contest 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 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 accordance with 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

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Sincerely,

/RA/

Ronald R. Bellamy, PhD, Chief
Reactor Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000336/2012003 and 05000423/2012003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-336, 50-423

License Nos.: DPR-65, NPF-49

Report No.: 05000336/2012003 and 05000423/2012003

Licensee: Dominion Nuclear Connecticut, Inc.

Facility: Millstone Power Station, Units 2 and 3

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

Dates: April 1, 2012 through June 30, 2012

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Approved By: Ronald R. Bellamy, PhD, Chief
Reactor Projects Branch 5
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Enclosure

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SUMMARY OF FINDINGS

IR 05000336/2012003, 05000423/2012003; 04/01/2012-06/30/2012; Millstone Power Station Units 1 and 2; Operability Determinations and Functionality Assessments.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Inspectors identified one finding of very low safety significance (Green). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspects for the findings were determined using IMC 0310, "Components Within Cross-Cutting Areas." Findings for which the 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: Mitigating Systems

- Green. An NRC identified finding of very low safety significance (Green) was identified for Dominion's failure to adequately assess the operability of the Unit 3 Feedwater isolation valves, 3FWS*CTV41A, B, C and D in accordance with OP-AA-102-1001, "Development of Technical Guidance Basis to Support Operability Determinations," and C OP 200.18, "Time Critical Operator Action Validation and Verification." Specifically, Dominion did not properly validate or credit manual operator actions to isolate the main feedwater lines during a feedline break inside containment as a compensatory measure for degraded hydraulic valve actuators. Dominion entered this issue into their corrective action program (CAP) as condition report number 478020, and conducted a reanalysis of the operability determination. The finding is more than minor because it is similar to NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," Example 3.k; in that the inadequate assessment of operability resulted in a condition where there was a reasonable doubt on the operability of the feedwater isolation function and the feedwater isolation valves. This issue is associated with the Equipment Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Dominion did not explicitly take credit for manual operator actions to trip the main feedwater pumps as a compensatory measure for the degraded capability of the 3FWS*CTV41 feedwater isolation valves to perform their safety function during a feedline break event inside containment. The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk-significant due to a seismic, fire, flooding, or severe weather initiating event. Therefore, the finding is considered to be of very low safety significance.

The inspectors did not assign a cross cutting aspect to this finding because the finding was not reflective of current performance. Operability determination OD000237 was completed in 2009 and OP-AA-102-1001 does not require periodic reassessment of active operability determinations. (Section 1R15)

Other Findings

A violation of very low safety significance that was identified by Dominion was reviewed by the inspectors. Corrective actions taken or planned by Dominion have been entered into Dominion's corrective action program. This violation and corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Millstone Unit 2 began the inspection period operating at 100 percent power. Unit 2 reduced power to 30 percent on May 11 to add oil to the 'A' reactor coolant pump (RCP) motor. Unit 2 returned to 100 percent power May 17 and remained at or near 100 percent for the remainder of the inspection period.

Unit 3 began the inspection period operating at 100 percent power. Unit 3 reduced power to 93 percent on May 18 for turbine testing and secondary plant maintenance. Power was returned to 100 percent power on May 20 and remained at or near 100 percent 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 Summer Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate AC power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Dominion's procedures affecting these areas and the communications protocols between the transmission system operator and Dominion. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether Dominion established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system manager, reviewing condition reports (CR) and open work orders, and walking down portions of the offsite and AC power systems including the 345 kilovolt (KV) switchyard and transformers. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

.2 External Flooding

a. Inspection Scope

During the week of April 23, the inspectors performed an inspection of the external flood protection measures for Millstone Nuclear Power Plant. The inspectors reviewed the Unit 2 Updated Final Safety Analysis Report (UFSAR), Chapter 2.4.2.2 and Unit 3

UFSAR Chapter 2.4.1.4, which depicted the design flood levels and protection areas containing safety-related equipment to identify areas that may be affected by internal flooding. The inspectors conducted a general site walkdown of all applicable external areas of Unit 2 and Unit 3, including the turbine building, auxiliary building, diesel generator (DG) buildings, intake structures, and fire pump house to ensure that Dominion erected flood protection measures in accordance with design specifications. The inspectors also reviewed operating procedures for mitigating external flooding during severe weather to determine if Dominion planned or established adequate measures to protect against external flooding events.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 5 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

Unit 2

- Reactor Building Closed Cooling Water (RBCCW) System, Facility 1 on May 1
- 'B' Emergency Diesel Generator (EDG) on May 25
- RBCCW System Facility 1 and 2 on June 18

Unit 3

- 'B' Train of the charging system, on May 2 & 3
- 'B' High Pressure Safety Injection (HPSI) System, on May 16

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 UFSAR, technical specifications (TS), work orders, 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 their CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

On May 11, 13, and 17, the inspectors performed a complete system walkdown of accessible portions of the Unit 3 Quench Spray System to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, surveillance tests, drawings, and equipment line-up check-off lists, to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hangar and support functionality, and operability of support systems. 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.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – 10 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 (OOS), degraded or inoperable fire protection equipment, as applicable, in accordance with procedures.

Unit 2

- Auxiliary Building East Battery Room, Fire Area A-22 on April 3
- Auxiliary Building Computer Room, Fire Area A-27 on April 13
- Auxiliary Building Control Room Air Conditioning Room, Fire Area A-33 on May 1
- Auxiliary Building Diesel Day Tank Room 'B', Fire Area A-30 on May 4
- Auxiliary Building Air Handling Units, Fire Area A-32 on May 4
- Fire Pumphouse, Fire Area FP-2 on June 15
- East 480 Volt Load Center Room, Fire Area A-28 on June 29

Unit 3

- West Switchgear Room, Fire Area CB-1 on May 1
- Battery Room #4, Fire Area CB-6 on April 26
- Cable Spreading Room Fire Area CB-8 on May 18

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed a fire brigade drill scenario conducted on April 26, which involved a fire in Battery Room 4 in the 'B' Essential Switch Gear room for Unit 3. The inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that Dominion personnel identified deficiencies, openly discussed them in a self-critical manner at the debrief, and took appropriate corrective actions as required. The inspectors evaluated specific attributes as follows:

- Proper wearing of turnout gear and self-contained breathing apparatus
- Proper use and layout of fire hoses
- Employment of appropriate fire-fighting techniques
- Sufficient fire-fighting equipment brought to the scene
- Effectiveness of command and control
- Search for victims and propagation of the fire into other plant areas
- Smoke removal operations
- Utilization of pre-planned strategies
- Adherence to the pre-planned drill scenario
- Drill objectives met

The inspectors also evaluated the fire brigade's actions to determine whether these actions were in accordance with Dominion's fire-fighting strategies.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

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 disable risk-significant equipment. The inspectors performed walkdowns of risk-significant areas, including manholes 3EMH*1A, 3EMH*1B, 3EMH*13B, and 3EMH*3B containing safety-related cables, 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.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (711111.07A – 1 sample)

a. Inspection Scope

The inspectors reviewed the 'B' emergency diesel generator (EDG) heat exchangers (jacket water, lube oil cooler, air cooler) to determine its readiness and availability to perform its safety functions. The inspectors reviewed the design basis for the component and verified Dominion's commitments to NRC Generic Letter 89-13. The inspectors reviewed the results of previous inspections of the 21 EDG heat exchangers. The inspectors discussed the results of the most recent inspection with engineering staff and observed the as-found conditions. The inspectors verified that Dominion initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – 3 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed a Unit 2 licensed operator simulator training on April 17, which included a loss of one train of 120 VAC vital instrument bus followed by a loss of coolant accident (LOCA). 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 Unit 3 licensed operator simulator training on May 1, which included loss of main feedwater and loss of all auxiliary feedwater. 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.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors conducted a four hour observation of the Unit 2 power reduction to 30 percent power to add oil to the 'A' RCP motor on May 11. The inspectors also conducted a four hour observation of the replacement of the #2 feed water regulating valve positioner on May 11 and the May 12 power ascension activities which included bringing the second feed pump on line and troubleshooting the moisture separator reheater low load valve. The inspectors observed control room briefings to verify that the briefings met the criteria specified in Dominion's Operations Standards and Expectations Handbook. 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.

The inspectors conducted a four hour observation of the Unit 3 control room operators on May 18. The control room operators reduced power from 100 percent to 93 percent, conducted turbine control, stop and combined intermediate valve testing and swapped from the 'C' condensate pump to the 'A' condensate pump. The inspectors observed control room briefings to verify that the briefings met the criteria specified in Dominion's Operations Standards and Expectations Handbook. 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 (71111.12 – 3 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structures, system 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 2

- Circulating Water System on April 6 through April 9
- 125 VDC System on April 10, 11, and 26

Unit 3

- Recirculation Spray System on May 21 through May 23

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 8 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. 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 work associated with the restoration of trip circuit breaker (TCBs) 1, 2, 5, and 6 following their inadvertent opening on May 18
- Yellow Risk associated with the 'A' high pressure safety injection (HPSI) pump surveillance on May 29
- Emergent risk associated with the 'B' EDG disabled annunciator alarming unexpectedly following restoration from an air roll surveillance on June 3 and 4
- Red Risk for inoperable vital Bus 22E due to degraded high energy line break (HELB) barrier on June 8

Unit 3

- Emergent Risk EDG Sequencers removed from service on April 13 and 14
- Yellow Risk for closure of 3SIH*MOV8924 for RCS leak rate troubleshooting on April 16
- Emergent risk for 'B' EDG surveillance test common mode failure evaluation on May 30
- Emergent work on replacement of the Electro-Hydraulic Control Permanent Magnet Generator +22 VDC Power Supply on line on June 23

b. Findings

No findings were identified.

1R15 Operability Determinations (OD) and Functionality Assessments (71111.15 – 7 samples)a. Inspection Scope

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

Unit 2

- CR477237, Incorrect lamps found in Unit 2 Reactor Protection System on June 7
- ETE-MP-2012-1115, MPS-2 West 480V SWGR Room North Wall top of wall Fire/HELB Penetration Seals, Revision 0 on June 8
- CR478285, Cracks in 480V West Switchgear Block Wall on June 12
- CR478752, 'B' service water (SW) pump strainer flush valve, 2-SW-90B, failed in-service test (IST) stroke time on June 14

Unit 3

- CR476936 'B' EDG Surveillance Test Failure - Common Mode Evaluation for 'A' EDG Operability May 30
- OD000237 Update: 3FWS*CTV41 closing capabilities on May 10
- CR475356 Source/Intermediate Range NI Cable Grounds on May 17

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 finding for Dominion's failure to adequately assess the operability of the Unit 3 feedwater isolation valve (3FWS*CTV41A, B, C and D) hydraulic actuators to perform their safety function to isolate main feedwater during a feedwater line break (FLB) inside containment. Specifically, OD000237 incorrectly concluded that the feedwater isolation (FWI) function of these valves was degraded but operable because the main steam line break (MSLB) event analysis bounded the FLB inside containment. This conclusion was not correct because under certain conditions the MSLB was not the most limiting accident scenario due to the inadequate closing capability of the hydraulic actuators.

Description. On June 27, 2007, Dominion identified that the Unit 3 feedwater isolation valve hydraulic actuators for 3FWS*CTV41A, B, C and D were not adequately sized to fully close against the expected differential pressure during a large FLB inside containment (1800 psid). Dominion determined (in CR-7-07160 and OD MP3-014-07) the valves would not go fully closed until after the feedwater pumps had tripped and therefore, the FWI function was operable with a degraded margin. A subsequent review (in OD000237 completed in 2009) reaffirmed this conclusion. The justification for continued operability was based on the conclusion that the FLB event remained bounded by the MSLB event and that operator actions could be relied upon to manually trip the motor-driven main feedwater pump in time to reduce the differential pressure across the feedwater isolation valve, allowing the valve to go fully closed before containment limits were exceeded.

On May 10, 2012, the inspectors reviewed this active OD and determined that the justification for continued operations did not meet the requirements of OP-AA-102-1001, "Development of Technical Guidance Basis to Support Operability Determinations," Revision 6. Specifically, Dominion had concluded that the FWI function was operable because the MSLB accident bounded the FLB accident, the main steam break event had a greater energy release rate, and no further analysis was necessary to demonstrate safety. This analysis did not fully consider the impact of continued high temperature feedwater flow from full power conditions into containment and the subsequent challenge to the electrical equipment qualification temperature limits inside containment.

Additionally, the OD had concluded that operators could be relied upon to trip the main feedwater pump to terminate feedwater flow into containment without addressing the nine requirements in MP3-SFRM, "Safety Function Requirements Manual" or the requirements in C OP 200.18, "Time Critical Operator Actions Validation and Verification." These requirements are similar to the considerations in NRC Information Notice 97-078 which discuss a systematic assessment of the specific actions as well as a systematic validation of the time sequence. OD000237, Revision 1 did not explicitly take credit for a time credited operator action as a compensatory measure for the degraded SSC, but implied that operator action would be required to manually stop the main feedwater pump for this event. A time-credited operator manual action cannot be used to replace an automatic action where the SSC is in a degraded condition until this analysis has been completed satisfactorily.

Analysis. The inspectors determined that the failure to adequately evaluate the operability of the FWI function in an active OD as required by OP-AA-102-1001 was a performance deficiency that was reasonably within Dominion's ability to foresee and

correct. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements.

The inspectors determined that the issue was more than minor because it is similar to example 3.k of IMC 0612 Appendix E, "Examples of Minor Issues." Specifically, the inadequate assessment of operability resulted in a condition where there is a reasonable doubt on the operability of the FWI function and the feedwater isolation valves. In addition, this degraded condition affects the equipment control attribute of the mitigating systems cornerstone to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. This issue challenges containment integrity and the environmental qualification of safety related equipment inside containment. The inspectors evaluated the finding using Phase 1, "Initial Screening and Characterization" worksheet in Attachment 4 to IMC 0609, "Significance Determination Process." The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk-significant due to a seismic, fire, flooding, or severe weather initiating event. Therefore, inspectors determined the finding to be of very low safety significance (Green).

The finding does not have a cross cutting aspect assigned because it did not reflect current performance. There is no explicit programmatic requirement for Dominion to periodically review operability determinations.

Enforcement. This finding does not involve enforcement action because no regulatory requirement violation was identified. Dominion entered this issue into their corrective action program (CR478020) and commenced an engineering technical evaluation (ETE-CME-2012-1013) to adequately justify continued operability. Because this finding does not involve a violation and has very low safety significance, it is identified as a finding. **(FIN 05000423/2012003-01, Inadequate Operability Determination for 3FWS*CTV41 Feedwater Isolation Valve Hydraulic Actuators.)**

1R18 Plant Modifications (71111.18 – 2 samples)

Temporary Modifications

a. Inspection Scope

The inspectors reviewed the temporary modifications listed below to determine whether the modifications affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results, and conducted field walkdowns of the modifications to verify that the temporary modifications did not degrade the design bases, licensing bases, and performance capability of the affected systems.

Unit 3

- Temp Mod 3-12-010, "Install Temporary Instrumentation to Monitor 'A' EGLS Power Supply Voltages," Revision 1
- Temp Mod 3-12-015 for 3MSS*V885 Gagging Device Installation

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 9 samples)a. Inspection Scope

The inspectors reviewed the post-maintenance tests 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

- Replacement of TCB 2 on April 12
- Repairs to the P6D circulating water pump on April 20
- Maintenance outage for mechanical and electrical PMs on the 'B' Control Room Air Conditioning unit April 30 through May 2.
- Two year PM of the 'C' Charging Pump on May 9
- Replacement of the #2 FRV positioner on May 11
- Two year PM of the 'B' EDG on May 24 and 25

Unit 3

- Repairs on 3SWP*P2B booster pump for 3HVK*CHL2 chiller on April 28
- Repacking of 3RHS*HCV606 on May 10
- Repairs to 3MSS*V885 following failure of valve to close on June 23

b. Findings

No findings were identified.

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 2403BA, Facility 1 ESAS UV, RSST and Sequencer Calibration and Functional Test on April 9
- SP 2604AO, HPSI IST, > 1750 psia, Facility 1 on April 10
- SP 2613M-001, Periodic DG Operability Test, Facility 1 (SIAS Start), on April 11
- SP2401GA-D, RPS Channel 'A-D' Bistable Trip Test, on May 16
- SP 2401H, Axial Shape Index Alarm Setpoint Check, on May 24
- SP 2612F-002, 'B' SW Pump IST, Facility 1, on June 13

Unit 3

- SP 3646A.8, Containment Train 'A' Isolation Valves - Slave Relay K630 Test on April 10 (CIV)
- SP 3646A.1, 'A' EDG Operational Test on May 15
- SP 3608.1, 'A' SI Pump Operational Test IST on May 16
- SP 3646A.2, 'B' EDG 24 hour Run and Restart Surveillance Test on May 29

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

The Nuclear Security and Incident Response headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures and of the Emergency Plan located under ADAMS accession numbers ML12068A262 and ML12125A154 as listed in the Attachment.

Dominion determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and does not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 – 1 sample)Training Observationsa. Inspection Scope

The inspectors observed a simulator training evolution for Unit 2 licensed operators on April 17 which required emergency plan implementation by an operations crew. Dominion planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Dominion evaluators noted the same issues and entered them into their CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES4OA1 Performance Indicator Verification (71151)Initiating Events Performance Indicators (6 samples)a. Inspection Scope

The inspectors reviewed Dominion's submittal of the Initiating Events Performance Indicator results for the period of July 1, 2011 through June 30, 2012:

Unit 2

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Transients per 7000 Critical Hours

Unit 3

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Transients per 7000 Critical Hours

To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors

also reviewed Dominion's operator narrative logs, CR, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 5 samples)

.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 the 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.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Dominion outside of the CAP, such as trend reports, performance indicators, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed individual issues identified during the NRC's daily CR review (Section 4OA2.1). The inspectors reviewed the Dominion quarterly trend report for the first quarter of 2012, conducted under PI-AA-200-2001, Trending, to verify that Dominion's personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The trend report consists of several graphs of the number of CRs per quarter that have been coded with various trend codes by the station trend coordinator. PI-AA-200-2001 states that the trend report is a high level report and the value of the report is in allowing the organization to focus on salient station issues without the need to sort through large amounts of distracting data. The report does not provide analysis of the trends. It was

not clear to the inspectors that the trend report provides any significant value to the target audience, managers and above, since it does not provide sufficient information to determine emerging station issues. Negative trends are forwarded to the applicable department for the necessary analysis. Additionally, the trend report is not a comprehensive listing of negative trends. The trend report listed only three negative trends. Past trend reports were more comprehensive because they contained negative trends identified by the departments. About a year and a half ago, Millstone switched to the Fleet trending procedure which is narrower in scope. Currently there is no single document that captures all the negative trends of the site.

The inspectors identified two instances where the guidance of PI-AA-200-2001 was not followed. The Attachment 13 template was not followed since the report does not contain a detailed analysis of the trends. Additionally, the status of the corrective actions for the open trends on Engineering Fundamentals and Configuration Control was not reported in the trend report as is required by section 3.7.2. Both of these issues are minor performance deficiencies since the requirement was administrative in nature and had no safety impact.

.3 Annual Sample: Review of the Operator Workaround Program (2 samples)

a. Inspection Scope

The inspectors performed a review of the Unit 2 and a separate review of Unit 3 operator workarounds. The inspectors reviewed the cumulative effects of the existing operator workarounds, operator burdens, existing operator aids and disabled alarms, and open main control room deficiencies to identify any effect on emergency operating procedure operator actions, and any impact on possible initiating events and mitigating systems. The inspectors evaluated whether station personnel had identified, assessed, and reviewed operator workarounds as specified in Millstone's procedure OP-AA-1700, Operations Aggregate Impact (OAI).

The inspectors reviewed the Dominion process to identify, prioritize and resolve main control room distractions to minimize operator burdens. The inspectors reviewed the system used to track these operator workarounds (OPSTAT database) and attended the weekly OAI meeting. The inspectors also toured the control room and discussed the current operator workarounds with the operators to ensure the items were being addressed on a schedule consistent with their relative safety significance.

b. Findings and Observations

No findings were identified.

The inspectors determined that the issues reviewed did not adversely affect the capability of the operators to implement abnormal or emergency operating procedures. The inspectors also verified that Dominion entered operator workarounds and burdens into the CAP at an appropriate threshold and planned or implemented corrective actions commensurate with their safety significance.

OP-AA-1700 states that the nuclear operations manager is responsible for implementing actions in maintain the OAI greater than or equal to 80. Dominion has not been effective in meeting the target OAI values as both units OAI values have been below 80 for 2012.

This is an internal Dominion metric and not an NRC requirement; therefore there is no violation of regulatory requirements.

.4 Annual Sample: Work Management Issues with Corrective Action Plan from ACE 017509

a. Inspection Scope

The inspectors performed an in-depth review of Dominion's apparent cause analysis (ACE) 18693 and corrective actions associated with CR428785, de-alloying of service water valves identified in ACE 17509. Specifically, ACE 18693 examined why the corrective action plan from ACE 17509 did not result in replacement of the de-alloying valves before leakage occurred.

The inspectors assessed Dominion's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of Dominion's corrective actions to determine whether Dominion was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Dominion's CAP and 10 CFR 50, Appendix B. In addition, the inspectors performed field walkdowns and interviewed engineering personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

Dominion determined that the apparent cause was that Engineering failed to assess the risk as required by PI-AA-200 when applying for an extension to replace the de-alloying valves. The extension was based on workload and parts availability and not the risk associated with a continuing corrosion process. Dominion determined that a contributing cause was the Corrective Action Review Board's failure to assess the risk when granting the extension.

The inspectors reviewed the ACE and determined that Dominion had adequately identified the issue, and determined the cause and contributing causes. The inspectors determined that Dominion's extent of condition to review long-term correction actions for the past two years to verify that the extensions were properly evaluated for risk was adequate. The inspectors also determined that the corrective action assignments were appropriate.

The inspectors determined that some of the behaviors that were identified in the corrective actions for ACE 17509 were repeated in ACE 18693. Specifically, ACE 18693 Apparent Cause 1 (AC-1) and Contributing Cause 1 (CC-1) state that PI-AA-200 was not followed in the ACE 17509 corrective actions in that risk was not assessed when granting extensions for the valve replacements, yet extensions were granted for the ACE 18693 corrective actions to replace of seven of the twelve valves without a discussion of the probability of valve failure during the time period of the extension. Additionally, ACE 18693 CC-3 states that PI-AA-200 was also not followed in ACE 17509 corrective actions in that the valve replacements were not tracked in the corrective action process

through implementation, yet ACE 18693's CA208981 was closed to a PM work order and CA209022 was closed to a purchase order. Both of these actions were outside of the corrective action process. Both of these issues are minor performance deficiencies since the requirement was administrative in nature and there were no safety consequences.

The inspectors also noted that Corrective Action 04 (CA-04) for Engineering to perform an Effectiveness Review had not been assigned.

.5 Annual Samples: Unit 2 Process Radiation Monitors

a. Inspection Scope

The inspectors conducted an in-depth review of the Unit 2 process radiation monitors. Specifically, the continuous air monitors used for measuring radioactive particulates, iodine and gaseous activity concentrations were selected for a review of previous problem identification and implementation of corrective actions. The inspectors reviewed CR, causal evaluations, work orders, and operating and maintenance procedures.

The inspectors assessed Dominion's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of Dominion's corrective actions to determine whether Dominion was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Dominion's CAP and 10 CFR 50, Appendix B. In addition, the inspectors performed field walkdowns and interviewed engineering personnel to assess the effectiveness of the implemented corrective actions. The inspectors also interviewed technicians and supervisors in the Operations, HP and I&C departments.

b. Findings and Observations

No findings were identified.

The Unit 2 radiation process monitors RM-8262A/B and RM-8123A/B (Containment Air Monitor – Particulate Monitors) were modified to accept a standardized CP200 or 300 iodine filter cartridge in 2004. This modification was not controlled under the design modification process and resulted in the installation of a filter adapter that was difficult to successfully install without causing air leakage into the system. If sufficient air leakage existed, the monitor could potentially become inoperable. A review of the Control Room narrative logs and plant process computer (PPC) data for a one year period showed that at no time were both channels OOS at the same time and therefore no violation of TS occurred. Recently, these monitors were restored to the original design configuration by reinstalling the correct vendor-supplied filter cartridges after Dominion identified the issue and corrected the problem.

The Unit 2 radiation process monitors RM-8434A/B (Radwaste Vent Monitor) and RM-8145A/B (Fuel Handling Building Exhaust Air Monitor) are not currently subjected to programmatic license requirements (TS, TRM, ODCM or EALs). Specifically, these NMC monitors are of an older design and have limited commercially available supply

vendor support. As a result, obtaining spare parts for these monitors has been difficult and equipment failures have required repair of obsolete circuit boards at the component level. In addition, the Iodine filter cartridges in these monitors were modified to accept CP-200 / 300 filter cartridges using an adaptor that was not subjected to the design modification process. These process monitors remain in this condition and may be subjected to air in-leakage because of adapter o-ring degradation and poor design/modification fit. The particulate filter paper rolls are no longer available and the filter paper was replaced with fixed paper instead of continuously advancing paper. These monitors are listed in Table 7.5-6 of the FSAR as part of the Unit 2 airborne process/effluent radiation monitor system. The functionality of these monitors has been the subject of many CRs and has been historically problematic.

Responsibility for the operations and maintenance of the Unit 2 radiation monitors is divided between several groups including Operations, I&C and HP. This situation results in the diversification of tasks and fragmentation of ownership with the resulting outcome that maintenance and corrective actions have historically not been well coordinated or effective. Coordination of setpoints for the Unit 2 radiation monitors has also been confusing as several documents have provided conflicting guidance. This situation has resulted in radiation monitor setpoints being incorrect with the result that the monitors were non-functional for various periods of time. However, a careful review of PPC data verified that no process monitors had been operated without complying with TS LCOs and action statements.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 3 samples)

.1 (Closed) Licensee Event Report (LER) 05000336/2011-005-00: Unit 2 Enclosure Building Rendered Inoperable Due to Degraded Door Seal

On December 3, 2011, Dominion discovered that a door sweep became dislodged on a boundary door for the Enclosure Building. As a result, the Enclosure Building was inoperable because there was no bounding analysis to assure that the safety function of the building to control the release of radioactive material was maintained. Dominion repaired the door and determined that 21 hours had elapsed from the time the door was last satisfactorily checked until the time it was repaired. This was less than TS 3.6.5.2, "Enclosure Building" 24 hour LCO action statement. The inspectors reviewed the LER and identified no findings and determined that no violation of NRC requirements occurred. This LER is closed.

.2 (Closed) LER 05000423/2011-003-01: Unit 3 Reactor Trip due to a Loss of Condenser Vacuum

On November 20, 2011, during a plant startup following a refueling outage, Unit 3 tripped at 1.7 percent power when a loss of the auxiliary boiler caused a loss of gland sealing steam to the main turbine which caused a loss of vacuum to the main condenser. The operators manually tripped the reactor as required by AOP 3559, "Loss of Condenser Vacuum." AOP 3559 did not differentiate between above and below P-10 operations. Dominion restarted the auxiliary boiler, restored gland sealing steam and condenser vacuum, and returned Unit 3 to criticality. The inspectors reviewed the LER and identified no findings and determined that no violation of NRC requirements occurred. This LER is closed.

.3 (Closed) LER 05000423/2012-001: Unit 3 Main Steam Line Pressure Transmitters Declared Inoperable

On February 9, 2012 while operating at 100% power, Dominion discovered that all 12 main steam line steam generator pressure transmitters had been reinstalled without using new gaskets as required by Equipment Qualification Record following maintenance performed from January 17 to February 9. Immediately upon discovery, the operators declared the pressure transmitters inoperable and entered Technical Specification Action Statement 3.0.3 at 4:55 PM. New gaskets were installed and all 12 pressure transmitters were declared operable at 8:12 PM on February 9. Operation in Mode 1 with the pressure transmitters inoperable is contrary to the requirements of Technical Specification 3.3.2 (ESF Actuation System Instrumentation) and Technical Specification 3.3.3.6. (Accident Monitoring Instrumentation). The enforcement aspects of this issue are discussed in section 4OA7. The inspectors did not identify any new issues during the review of the LER. This LER is closed.

4OA5 Other Activities

Operation of an ISFSI at Operating Plants (IP 60855 and 60855.1)

a. Inspection Scope

The inspectors observed and evaluated Dominion's loading of the first of four canisters associated with the current Independent Spent Fuel Storage Installation (ISFSI) dry cask campaign for Unit 2. The inspectors verified compliance with the Certificate of Compliance (CoC), TS, regulations, and with Dominion's procedures. The inspectors also reviewed Dominion's activities related to long-term operation and monitoring of the ISFSI.

The inspectors observed the heavy load movement of the transfer cask (TC) and loaded dry shielded canister (DSC) from the spent fuel pool to the cask washdown pit next to the spent fuel pool. The inspectors also observed DSC processing operations including: decontamination and surveying, welding, non-destructive weld examinations, DSC draining, vacuum drying, helium backfilling, and leak testing. During performance of the activities, the inspectors evaluated Dominion's familiarity with procedures, supervisory oversight, and communication and coordination between the personnel involved. The inspectors also reviewed loading and monitoring procedures and evaluated Dominion's adherence to these procedures.

The inspectors performed tours of the ISFSI pad to assess the material condition of the pad and the loaded horizontal storage modules (HSMs). The inspectors also reviewed the as low as reasonably achievable (ALARA) goal for the loading of the first cask to determine the adequacy of Dominion's radiological controls and to ensure that radiation worker doses were ALARA and that project dose goals could be achieved.

The inspectors attended licensee briefings to assess their ability to identify critical steps of the evolution, potential failure scenarios, and human performance tools to prevent errors.

The inspectors reviewed Dominion's program associated with fuel characterization and selection for storage. The inspectors reviewed cask fuel selection packages to verify that

Dominion was loading fuel in accordance with the CoC and TS. Dominion did not plan to load any damaged fuel assemblies during this campaign.

At the time of this inspection, the inspectors noted that the temperature monitoring system for the loaded HSMs was not operational (condition report 474341). The inspectors verified that Dominion was appropriately implementing compensatory measures in accordance with TS requirements for HSM surveillance.

The inspectors reviewed corrective action reports and the associated follow-up actions that were generated since Dominion's last loading campaign to ensure that issues were entered into the CAP, prioritized, and evaluated commensurate with their safety significance. The inspectors also reviewed Dominion's 10 CFR 72.48 screenings.

b. Findings

No findings were identified.

40A6 Meetings, Including Exit

On July 16, the inspectors presented the inspection results to Stephen E. Scace, 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.

On April 19, Ronald Bellamy, NRC Branch Chief for Millstone, presented and discussed the 2011 end-of cycle performance assessment of the Millstone Nuclear Power Station with Mr. Stephen Scace, Site Vice President, and other members of the Millstone staff. The licensee acknowledged the assessment and planned regulatory oversight. This discussion was completed prior to a public open-house meeting on April 19. (ADAMS Accession ML# 12093A083).

40A7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by Dominion and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

Technical Specification 3.3.2 states, in part, that The Engineered Safety Features Actuation System instrumentation channels and interlocks shown in Table 3.3-3 shall be operable with their Trip Setpoints set consistent with the values shown in the Nominal Trip Setpoint column of Table 3.3-4. TS 3.3.3.4 states in part that these accident monitoring channels shall be operable. Contrary to these requirements, all main steam line steam generator pressure transmitters were reinstalled after maintenance using gaskets that were not environmentally qualified for use in an accident environment, thereby rendering these transmitters inoperable from January 17 through February 9, a condition prohibited by TS. Dominion identified the condition and immediately entered TS 3.0.3. Dominion replaced the gaskets and restored full EQ qualification to all main steam line pressure transmitters while complying with the action statements of TS 3.0.3, and entered the issue into the corrective action program as condition report CR462222.

The inspectors determined that the finding was of very low safety significance (Green) in accordance with NRC IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings". The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk-significant due to a seismic, fire, flooding, or severe weather initiating event.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION**KEY POINTS OF CONTACT**Licensee Personnel

M. Adams	Plant Manager
L. Armstrong	Manager, Training
R. Acquaro	Unit 3 Shift Manager
G. Auria	Nuclear Chemistry Supervisor
B. Bartron	Supervisor, Licensing
R. Bonner	Supervisor Nuclear Engineering
E. Brodeur	Unit 3 Shift Manager
C. Chapin	Assistant Operations Manager
W. Chestnut	Supervisor, Nuclear Shift Operations Unit 2
F. Cietek	Nuclear Engineer, PRA
T. Cleary	Licensing Engineer
G. Closius	Licensing Engineer
M. Cote	Nuclear Technical Specialist III
L. Crone	Supervisor, Nuclear Chemistry
J. Curling	Manager, Protection Services
P. Dillon	Nuclear Engineer III
J. Dorosky	Health Physicist III
M. Finnegan	Supervisor, Health Physics, ISFSI
T. Fisher	Unit 3 Work Control SRO
A. Gharakhanian	Nuclear Engineer III
W. Gorman	Supervisor, Instrumentation & Control
J. Grogan	Assistant Operations Manager
K. Grover	Manager, Nuclear Operations
W. Harrelson	Unit 3 Unit Supervisor
C. Hollis	Unit 3 Unit Supervisor
C. Houska	I&C Technician
J. Kelly	Unit 3 RO
B. Kelly	Unit 3 Unit Supervisor
M. King	I&C Supervisor
J. Kunze	Supervisor, Nuclear Operations Support
J. Laine	Manager, Radiation Protection/Chemistry
M. Logan	I&C Technician
S. Loser	I&C Supervisor
E. Lupine	Unit 3 Reactor Operator (UI)
R. MacManus	Director, Nuclear Station Safety & Licensing
G. Marshall	Manager, Outage and Planning
C. Massung	Unit 3 I&C Technician
C. Maxson	Manager, Nuclear Oversight
K. Miles	Unit 2 HP Supervisor
B. Nichols	Unit 3 STA
M. O'Conner	Assistant Manager for Outage and Planning
R. Riley	Supervisor, Nuclear Shift Operations Unit 3
M. Roche	Senior Nuclear Chemistry Technician
L. Salyards	Licensing, Nuclear Technology Specialist

S. Saulter	Nuclear Mechanic Level III
S. Scace	Site Vice President
R. Schmidt	Unit 3 RO
J. Semancik	Plant Manager
A. Smith	Asset Management
D. Smith	Manager, Emergency Preparedness
S. Smith	Manager, Engineering
M. Socha	Unit 3 Unit Supervisor
J. Stoddard	Unit 3 Shift Manager
D. Tilton	Supervisor Nuclear Engineering
S. Turowski	Supervisor, Health Physics Technical Services
R. Vigneau	Unit 3 Unit Supervisor
C. Vournazos	IT Specialist, Meteorological Data
R. Walsh	Unit 3 Reactor Operator
S. Wiese	Unit 2 Unit Supervisor
C. Wooten	Work Planning Specialist

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Closed

05000423/2011-003-01	LER	Unit 3 Reactor Trip due to Loss of Condenser Vacuum (Section 4OA3)
05000336/2011-005-00	LER	Enclosure Building Rendered Inoperable Due to Degraded Door Seal (Section 4OA3)
05000423/2012-001	LER	Unit 3 Main Steam Line Pressure Transmitters Declared Inoperable (Section 4OA3)

Opened/Closed

05000423/2012003-01	FIN	Inadequate Operability Determination for 3FWS*CTV41 Feedwater Isolation Valve Hydraulic Actuators (Section 1R15)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

AOP 2560, Storms, High Winds and High Tides, Revision 010-07
 AOP 3569, Severe Weather Conditions, Revision 018
 C OP 200.8, Response to ISO New England/CONVEX Notifications and Alerts, Revision 004-06
 SP 2665, Building Flood Gate Inspections, Revision 005-03

Miscellaneous

CR350386
 CR350395
 CR 440310
 CR472492
 CR473049
 CR473229
 Fire Doors, Barriers and Buildings System Health Report, 1st Quarter 2012
 MRE014129
 Switchyard System Health Report, 1st Quarter 2012
 Unit 2 NSST, RSST and Main Transformer System Health Report, 1st Quarter 2012
 Unit 3 NSST, RSST, Main Transformers, and ISO-Phase System Health Report, 1st Quarter 2012

Section 1R04: Equipment Alignment

Procedures

OP 2326A-001, SW Alignment Verification, Facility 1, Revision 000-06
 OP 2330A-001, RBCCW System Alignment, Facility 1, Revision 000-05
 OP 2330A-002, RBCCW System Alignment, Facility 2, Revision 000-05
 OP 2330A-003, 'A' Pump is Supplying 'A' HX and 'C' Pump is Supplying 'C' HX With 24C Supplying 24E, Revision 000-00
 OP 2346B-001, DG Fuel Oil Tank Valve Alignment, Revision 000-01
 OP 2346B-003, 'B' DG Fuel Oil Valve Alignment, Revision 000-00
 OP 2346C-004, 'B' DG Service Water Valve Alignment, Revision 000-04
 OP 2346C-005, 'B' DG Starting Air Valve Alignment, Revision 000-00
 OP 2346C-006, 'B' DG Jacket Water Valve Alignment, Revision 000-01
 OP 2346C-007, 'B' DG Lube Oil Valve Alignment, Revision 000-03
 OP 3304A, Charging and Letdown, Revision 031-04
 OP 3308-004, Train 'B' HPSI, Revision 004-00
 OP 3309-001, Quench Spray System (RWST) – Valve Lineup, Revision 005-02
 OP 3309-002, Quench Spray System (Train A) – Valve Lineup, Revision 006-04
 OP 3309-003, Quench Spray System (Train B) – Valve Lineup, Revision 005-04
 OP 3309-4, Quench Spray System – Electrical Lineup, Revision 4-2
 OP 3309-5, Quench Spray System – Instrument Lineup, Revision 4
 OPS Form 3308-1, SIH Control Board Alignment, Revision 4, Change 1
 SP 3609.1-002, Quench Spray Pump 3QSS*P3A Biennial IST Comprehensive Pump Test, Revision 000-02

Miscellaneous

Quench Spray and RWST System Health Report, 1st Quarter 2011 and 2012

Section 1R05: Fire Protection

Procedures

EOP 3509, "Fire Emergency," Revision 024-02

Miscellaneous

Fire Protection Program Health Report, 1st Quarter 2012

Millstone Unit 2 Firefighting Strategies, April 2002

Millstone Unit 3 Fire Fighting Strategies, October 2001

MNP3 Fire Protection Evaluation Report, Revision 17.3

U2-24-FPP-FHA, Millstone Unit 2 Fire Hazards Analysis, Revision 12

Drill Package for Fire Area CB-6 at Unit 3, Revision March 2012

Section 1R06: Flood Protection Measures

Maintenance Orders/Work Orders

AWO 53102454188

AWO 53102484347

Section 1R07: Heat Sink Performance

Procedures

ER-AA-HTX-1002, Heat Exchanger Visual Inspection Form – Tubeside, Revision 1

MP 2701J-096, Heat Exchanger "As Found" Inspection Checklist, Revision 007-01

Section 1R11: Licensed Operator Regualification Program

Procedures

SP 3623.2, "Turbine Overspeed Protection System Test," Revision 009-10

SP 3623.2-002, "Cycle Test of HP Turbine Control Valves, Stop Valves and LP Combined Intermediate Stop and Intercept Valves," Revision 010-04

OP 3319, "Condensate," Revision 019-03

Condition Reports

CR473316

CR475030

Miscellaneous

Unit 2 LORP, Evaluated Simulator Exam (ES12301A)

Unit 3 LORT, simulator examination 14

Section 1R12: Maintenance Effectiveness

Procedures

MP 2703B1, Unit 2 Circulating Water Pump Overhaul, Revision 010-07

Condition Reports

CR445935
 CR467953
 CR472422

Miscellaneous

ACE 18977

(a)(1) Action Plan for the Circulating Water System

Circulating Water, Waterbox Priming and Screenwash System Health Report, 1st Quarter 2011 and 1st Quarter 2012

Maintenance Rule Scoping Table for the Circulating Water System

Maintenance Rule Scoping Table for the Recirculation Spray System

Maintenance Rule Scoping Table for the 125 VDC System

MRE011791	MRE013180	MRE014154
MRE011802	MRE013376	MRE014270
MRE012189	MRE013509	MRE014272
MRE012272	MRE013545	MRE014693
MRE012669	MRE013568	MRE014705
MRE012938	MRE014143	MRE014882

SO-12-010, Monitoring 'A' and 'B' Circulating Water Pump Discharge Pressures

125 VDC System Health Report, 1st Quarter 2011 and 2012

125 VDC Unavailability, April 2010 to March 2012

Drawing 12179-EM-133B-44

System Description, Recirculation Spray System

Maintenance Rule Database

Maintenance Rule Function System 03-CRS3306

Maintenance Rule Performance Criteria

RSS Unavailability Log

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Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

AOP 2503E, Loss of 480 VAC Bus 22E, Revision 003-12

SP 2601D, Power Range Safety Channel Delta T Power Channel Calibration, Revision 016-02

SP 2619A, Control Room Shift Check, Revision 014-03

WM-AA-301-Attachment 14, "High Risk Contingency Plan Actions, Unit 3 'A' EGLS Sequencer" dated April 10

SP 3646A.2, "EDG 'B' Operability Test," Revision 018-08

MA-AA-103 Attachment 2, "Troubleshooting Sheet"

WM-AA-100, Work Management, Revision 17

WM-AA-301 Attach 14, "High Risk Contingency Plan Actions, +22 VDC EHC PMG Power Supply Replacement," dated June 21, 2012

Condition Reports

CR467765	CR476936	CR478194
CR475700	CR476983	CR478246
CR475723	CR477532	CR479766

Miscellaneous

Temp Mod 3-12-010, "Install temporary instrumentation to monitor 'A' EGLS power supply voltages," Revision 1

Operator EOOS Risk Reports for April 13, 2012 – EGLS OOS

Operator EOOS Risk Report for April 16, 2012 – Closure of 3SIH*MOV8924

Operator EOOS Risk Profile (Yellow) for Unit 3 for May 30, 2012 – Common mode failure evaluation for 'A' and 'B' EDGs

Engineering Log Entry 5/30/2012 at 12:10 PM, "Unit 3 EDG Common Mode Evaluation for the 'B' EDG not reaching 110% Load"

Section 1R15: Operability EvaluationsProcedures

OP-AA-102-1001, "Development of Technical Basis to Support Operability Determinations," Revision 6

SP 3646A.2, "EDG 'B' Operability Test," Revision 018-08

Condition Reports

CR316335

CR475365

CR478194

CR474338

CR476936

CR474576

CR476983

Miscellaneous

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OD000237 (MP3-014-07), "MP3 Feedwater isolation trip valves – 3FWS*CTV41A, B, C and D," Revision 1

OD MP3-014-07, "3FWS*CTV41's Closing Capability Against Main Feedwater Shutoff Pressure is Non-Conforming to Current Industry Requirements," dated August 21, 2007

Memo MP3-DE-96-467, "MP3-Feedwater Overpressurization, DCR M3-96060," dated June 13, 1996

MP 3760DB, "SG FWIV – Hydraulic Fluid and N2 Levels," Revision 008-03

ETE-CME-2012-1013, "ETE to support OD000237 (formerly MP3-014-07) Containment Analysis for Feedwater Line Break with FWIV Partially Open," Revision 0

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AR 09000291, "Recommended setpoint, design and procedure changes for MSVB REA AR Tracking CR324298," dated February 23, 2009

SFRM change Notice DM3-00-0033-12, Section 2.17 "Credited Operator Actions" dated March 2012

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CR467765

CR479705

CR479770

Maintenance Orders/Work Orders

AWO 53102220910

AWO 53102535134

Miscellaneous

Temp Mod 3-12-010, "Install temporary instrumentation to monitor 'A' EGLS power supply voltages," Revision 1

Temp Mod 3-12-015, "Installation of Gagging Device for Valve 3MSS*V885," Revision 0

Section 1R19: Post-Maintenance TestingProcedures

OP 2304E21, 'C' Charging Pump Post Maintenance Testing, Revision 000-03

OP 23465C-002, 'B' DG Data Sheet, Revision 001-08

SP 2401D, RPS Matrix Logic and Trip Path Relay Test, Revision 013-10

SP2401NE, RPS TCB Response Time Test, Revision 000-03

SP 2404AZ2, CRACs Facility Z2 Area Radiation Monitor RIT-9799B Functional Test, Revision 002-03

SP 2601H-007, 'C' Charging Pump Comprehensive Test, Revision 000-01

SP 2613B-001, Periodic DG Operability Test, Facility 2 (Loaded Run), Revision 021-06

SP 2613L-001, Periodic DG Slow Start Operability Test, Facility 2 (Loaded Run), Revision 004

SP 2624B-002, 'B' EDG Train 'A' Starting Air Vent Valve IST, Revision 002-01

SP 2624D-00', 'B' EDG Starting Air Tank Check Valves IST, Revision 000-00

SP 2670-007, DG 'B' HX D/P Determination, Revision 001-05

SP 3626.9, "Control Building Air Conditioning Booster Pump 3SWP*P2B Group 'A' Test," Revision 011-05

SP 3610A.7, "RHR Valve Operability Test – Train 'A' (Quarterly)," Revision 009-01

DWG 12179-EM-123A, "Main Steam and Reheat," Revision 51

Condition Reports

CR470361	CR472305	CR475857
CR471242	CR472338	CR475883
CR471552	CR472450	CR475899
CR471952	CR472708	CR475900
CR472295	CR472954	CR475936
CR472411	CR473088	CR476445
CR472743	CR473340	CR479705
CR472297	CR475825	CR479770

Maintenance Orders/Work Orders

53M20214565	53M20806400	53102463972
53M20505416	53M20806423	53102484059
53M20505417	53102220910	53102490839
53M20612240	53102270210	53102498887
53M20612241	53102336660	53102505395
53M20612242	53102363527	53102506972
53M20612244	53102379763	53102508919
53M20702732	53102381185	53102535134
53M20707071	53102420017	
53M20802684	53102437760	

Miscellaneous

MP-20-WP-GLD-40 Attachment 2, "Post Maintenance Test Plan for AWO53102505395" dated May 8, 2012

MP-20-WP-GLD-40 Attachment 2, "Post Maintenance Test Plan for AWO53102336660" dated May 7, 2012

Section 1R22: Surveillance Testing

Procedures

OP 2346A-004, 'A' DG Data Sheet, Revision 023-09

OP 2624A-003, 'A' EDG Train 'B' Starting Air Valves IST, Revision 002-01

OP 3346A-014, "EDG 'A' – Operating Log," Revision 012

OP 3308, "High Pressure Safety Injection," Revision 012-01

SP 2401GA-D, RPS Channel 'A-D' Bistable Trip Test Data Sheet, Revision 02-009

SP 2613K-001, Periodic DG Slow Start Operability Test, Facility 1 (Loaded Run), Revision 004

SP 2604AO-001, 'A' HPSI Pump and Check Valve IST, Revision 001

SP 2670-004, DG 'A' HX D/P Determination, Revision 001-05

SP3646A.8, "Slave Relay Testing Train 'A'," Revision 023-07

SP3646A.8-010, "Containment Isolation Phase A S920 – Relay K630, Slave Relay Actuation," Revision 002-02

SP3646A.1, "EDG 'A' Operability Test," Revision 018-08

SP3646A.1-001, "EDG 'A' Operability Test," Revision 018-03

SP 3646A.2, "EDG 'B' Operability Test," Revision 018-08

SP 3646A.2-001, "EDG 'B' Operability Test," Revision 018-08

SP3646A2-006, "EDG 'B' 24 Hour Run and Restart," Revision 001

SP 3608.1, "Safety Injection Pump 'A' Operational Test," Revision 011-01

SP3630.1, "Safety Injection Pump 'A' Quarterly IST Pump Test," Revision 009

Miscellaneous

CR470326

CR476936

CR476983

CR478752

DWG 12179-EM-113B, "High Pressure Safety Injection"

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Millstone Power Station Emergency Plan, Revision 44

MP-26-EPI-FAP06, "Classification and PARs," Revision 7

MP-26-EPI-FAP07, "Notifications and Communications," Revision 14

MP-26-EPI-FAP10, "Dose Assessment," Revision 7

Section 40A2: Problem Identification and Resolution

Procedures

EN 21235, "Millstone Unit 2 Radiation Monitor High Radiation Setpoints," Revision 003-00

DCM-01, "Program Policy and Overview," Revision 011-06

MP-08-MP-GDL06A, "Millstone Standard Practices for the Module Repair Facility," Revision 000-00

OP-AA-100, Conduct of Operations, Revision 20

OP-AA-1700, Operations Aggregate Impact, Revision 5
 OP 2383A, "Process Radiation Monitor Systems," Revision 020-09
 PI-AA-100-1003, Self Evaluation, Revision 9
 PI-AA-200, Corrective Action, Revision 19
 PI-AA-200-2001, Trending, Revision 2
 RPM 2.2.6, "Continuous Air Monitors," Revision 014-01
 RPM 2.2.12, "Containment Continuous Air Radiation Monitors," Revision 005-03
 RPM 4.1.11, "AMS-4, "Air Monitoring System Calibration," Revision 003

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CR428785	CR473657	CR460889
CR429517	CR475836	CR461043
CR435736	CR476457	CR461044
CR455628	CR476944	CR466810
CR461274	CR478034	CR468440
CR461538	CR478179	CR468443
CR462657	CR411794	CR470114
CR464034	CR427879	CR470335
CR465107	CR430630	CR471069
CR465933	CR431456	CR471303
CR468406	CR435173	CR471690
CR470721	CR437238	CR471926
CR471570	CR437625	CR471438
CR472003	CR443254	CR472002
CR472760	CR453545	CR476429
CR473559	CR460542	

Drawings

Drawings 12179-EM-145A, 12179-EM-123A

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 Corrective Action Trends Report 1st Quarter 2012
 Engineering Department Performance Improvement Action Plan March 2012
 Engineering Department Self Evaluation Meeting, April 26, 2012
 ETE-MP-2011-0090, Structural Integrity Evaluation for MP3 Dealloyed Aluminum Bronze Valves, Revision 1
 Millstone Power Station Self Evaluation Meeting, March 20, 2012
 OD000421, Aluminum Bronze Valves, Revision 0
 OP-AA-1700, "Operations Aggregate Impact," Revision 5
 OPSTAT Database
 SAR001897

Section 40A3: Follow-Up of Events and Notices of Enforcement Discretion

LER 2011-003-01, "Reactor Trip due to Loss of Condenser Vacuum"
 RCE001071, "Manual Reactor Trip, Millstone Unit 3"
 AOP 3559, "Loss of Condenser Vacuum," Revision 009-02
 AOP 3559, "Loss of Condenser Vacuum," Revision 009-03
 AWO 5310286476

Section 4OA5: Other Activities

Spent Fuel Handling Operations, OPS-FH 216, Revision 002-03
 Dry Canister Loading, OP 2209H, Revision 001-08, May 31, 2012
 PCI, PI-CNSTR-T-OP-250, Revision 2, Closure Welding of Dry Shielded Canisters at the Millstone and Kewaunee Stations
 PCI General Quality Procedure GQP-9.0, Training Qualification Examination, and Certification of NDE Inspection and Testing Personnel in Accordance With SNT-TC-1A and CP-189
 PCI GQP-9.2, High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds
 DSC Insertion Into HSM (ISFSI) COP 302.1, Revision 001-07, April 30, 2012
 Vacuum Drying System Operations (ISFSI) COP 302.5, Revision 001-04, May 31, 2012
 Transfer Cask Lift Yoke Inspections (ISFSI) CSP 604.3, Revision 000-03, May 10, 2012
 Transfer Equipment Assembly, Disassembly, and Pre-operation Testing Instructions (ISFSI) CSP 604.4, Revision 000-05, May 31, 2012
 Transfer Cask Pre-Job Inspection and Shipping Instructions (ISFSI) CSP 604.2, Revision 001-02, September 30, 2010 AND completed procedure May 22, 2012
 Transfer Cask Lift Yoke Inspections (ISFSI) CSP 604.3, Revision 000-02, June 8, 2006 AND completed forms April 10, 2012 – May 11, 2012
 VDS Instrument Calibrations (ISFSI) IC, Revision 0001-01C 24 AND completed May 2, 2012 – June 1, 2012
 NUHOMS Canister MPS 32PT-S100-A-H2016 ISFSI Fuel Assembly Certification and Canister Loading Map completed May 31, 2012
 ETE-NAF-2010-0004 Revision 1, Attachment 2 - Engineering Technical Evaluation CM-AA-ETE-101
 Millstone Power Station Independent Spent Fuel Storage Installation 72.212 Report dated May 30, 2012
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 DNAP-3004-Attachment 4, October 6, 2010
 CM-AA-400 Attachment 1, March 15, 2012
 CM-AA-400 Attachment 3, May 29, 2012
 CM-AA-400 Attachment 3, March 22, 2012
 CM-AA-400 Attachment 1, May 7, 2012
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 SNM Inventory and Control EN 21001, Revision 024-00, August 23, 2011
 Fuel Assembly Visual Examination for Dry Storage EN 21024, Revision 005-00 Attachment 2, completed May 14, 2012
 TR-AA-210 Attachment 3 Training Program for Millstone Station Nuclear Fuel Handler Student Qualification Matrix June 4, 2012
 Condition Report 474341

LIST OF ACRONYMS

AC	alternating current
ACE	apparent cause analysis
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
CAP	Corrective Action Program
CFR	Code of Federal Regulations
COC	certificate of compliance
CR	condition report
DG	diesel generator
DNMS	Division of Nuclear Material Safety
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
DSC	dry shielded canister
EDG	emergency diesel generator
EP	emergency preparedness
FIN	finding
FLB	feedwater line break
FWI	feedwater isolation
HPSI	high pressure safety injection
HSM	horizontal storage module
IMC	Inspection Manual Chapter
ISFSI	Independent Spent Fuel Storage Installation
IST	in-service test
KV	kilovolt
LER	licensee event report
LOCA	loss of coolant accident
MSLB	main steam line break
NCV	non-cited violation
NEI	Nuclear Energy Institute
NSIR	Nuclear Security Incident Response
NRC	Nuclear Regulatory Commission
OAI	operational aggregate impact
OD	operability determination
OOS	out of service
PARS	Publicly Available Records
PI	performance indicator
RBCCW	reactor building closed cooling water
RCP	reactor coolant pump
RCS	reactor coolant system
SDP	Significance Determination Process
SSC	structure, system, or component
SW	service water
TC	transfer check
TCB	trip circuit break
TS	technical specifications
UFSAR	Updated Final Safety Analysis Report