February 2, 2006

Mr. David A. Christian
Sr. Vice President and Chief Nuclear Officer
Dominion Resources
5000 Dominion Boulevard
Glenn Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION - NRC INTEGRATED INSPECTION REPORT 05000336/2005005 AND 05000423/2005005

Dear Mr. Christian:

On December 31, 2005, the US 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 January 19, 2006, with Mr. J. Alan Price 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 NRC-identified findings of very low safety significance (Green). One of these findings was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation (NCV), in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest the NCV, you should provide a response within 30 days of the date of these inspection reports, 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 the Millstone Power Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document 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/

Paul G. Krohn, Chief
Reactor Projects Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000336/2005005 and 05000423/2005005
w/Attachment: Supplemental Information

cc w/encl:
J. A. Price, Site Vice President, Millstone Station
C. L. Funderburk, Director, Nuclear Licensing and Operations Support
D. W. Dodson, Supervisor, Station Licensing
L. M. Cuoco, Senior Counsel
C. Brinkman, Manager, Washington Nuclear Operations
J. Roy, Director of Operations, Massachusetts Municipal Wholesale Electric Company
First Selectmen, Town of Waterford
R. Rubinstein, Waterford Library
B. Sheehan, Co-Chair, NEAC
E. Woollacott, Co-Chair, NEAC
E. Wilds, Director, State of Connecticut SLO Designee
J. Buckingham, Department of Public Utility Control
G. Proios, Suffolk County Planning Dept.
R. Shadis, New England Coalition Staff
G. Winslow, Citizens Regulatory Commission (CRC)
S. Comley, We The People
D. Katz, Citizens Awareness Network (CAN)
R. Bassilakis, CAN
J. M. Block, Attorney, CAN
P. Eddy, Electric Division, Department of Public Service, State of New York
P. Smith, President, New York State Energy Research and Development Authority
J. Spath, SLO Designee, New York State Energy Research and Development Authority

Distribution w/encl **(VIA E-MAIL)**:
S. Collins, RA
M. Dapas, DRA
S. Lee, RI OEDO
D. Roberts, NRR
V. Nerses, NRR
E. Miller, NRR
S. Schneider, Senior Resident Inspector
S. Kennedy, Acting SRI
E. Bartels, Resident OA
P. Krohn, RI
S. Barber, RI
Region I Docket Room (with concurrences)
ROPreports@nrc.gov

SISP Review Complete:___PGK_____ (Reviewer's Initials)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-336, 50-423
License No.:	DPR-65, NPF-49
Report No.:	05000336/2005005 and 05000423/2005005
Licensee:	Dominion Nuclear Connecticut, Inc.
Facility:	Millstone Power Station, Units 2 and 3
Location:	Waterford, CT 06385
Dates:	October 1, 2005 through December 31, 2005
Inspectors:	S. M. Schneider, Senior Resident Inspector, Division of Reactor Projects (DRP) J. C. Benjamin, Resident Inspector, DRP S. R. Kennedy, Resident Inspector, DRP F. J. Arner, Senior Reactor Inspector, Division of Reactor Safety (DRS) T. F. Burns, Reactor Inspector, DRS J. M. D'Antonio, Operations Engineer, DRS Z. B. Fu, Reactor Inspector, DRS D. C. Johnson, Reactor Inspector, DRS G. X. Johnson, Reactor Inspector, DRS J. E. Josey, Reactor Inspector, DRS K. S. Kolaczyk, Senior Resident Inspector, Ginna, DRP N. T. McNamara, Emergency Preparedness Inspector, DRS G. W. Meyer, Senior Reactor Inspector, DRS M. C. Modes, Senior Reactor Inspector, DRS T. A. Moslak, Health Physicist, DRS T. L. O'Hara, Reactor Inspector, DRS A. C. Patel, Reactor Inspector, DRS P. A. Presby, Operations Engineer, DRS R. J. Prince, Health Physicist, DRS D. L. Werkheiser, Reactor Inspector, DRS
Approved by:	Paul G. Krohn, Chief Reactor Projects Branch 6 Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000336/2005-005, 05000423/2005-005; 10/01/2005 - 12/31/2005; Millstone Power Station, Units 2 and 3; Correction of Emergency Preparedness Weaknesses and Deficiencies, Other Activities.

The report covered a 3-month period of inspection by resident inspectors and announced inspections by regional inspectors. One (Green) NCV was identified and one (Green) finding was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). 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 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Unit 3

- Green. The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for the failure to properly assess compensatory actions and to take timely actions to correct the introduction of water into the Unit 3 ‘B’ EDG rocker arm (RA) lubricating oil (LO) system. Following the discovery of elevated water content in the ‘B’ EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the EDG was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, and 3) did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the EDG on September 27, 2005, and the unavailability of the ‘B’ EDG for approximately 5 days while corrective maintenance was performed. This finding is related to the cross-cutting area of problem identification and resolution in that, once the source of the water contamination had been identified, Dominion did not properly assess compensatory actions and take effective corrective actions to preclude significant water in-leakage into the ‘B’ EDG RA LO system.

  The finding was more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and the availability and reliability of the ‘B’ EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more

non-technical specification trains based on a 24 hour probabilistic risk assessment mission time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. (Section 4OA5.2).

Cornerstone: Emergency Preparedness (EP)

Unit 2 and Unit 3

- Green. The inspector identified a Green finding for the failure to take effective corrective actions in that since 2004, on several occasions, staff assigned to the site emergency response organization (SERO) did not maintain their qualifications current. The corrective actions taken to prevent recurrence of this problem were not effective as highlighted by repeat examples of lapsed SERO qualifications. Individuals identified during the inspection with the lapsed qualifications were immediately removed from the SERO callout system until their training was completed. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that the corrective actions taken were not effective in preventing reoccurrence.

  The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. Specifically, Dominion's corrective actions to ensure personnel maintained their SERO qualifications current were ineffective and did not prevent recurrence. This finding is not suitable for SDP evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. (Section 1EP5).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 2 operated at essentially 100 percent power for the duration of the inspection period with two exceptions. On November 8, 2005, operators reduced power to 94 percent for a planned outage of the "B" intake bay. Operators returned the unit to 100 percent power on November 10, 2005. On November 15, 2005, operators reduced power to 95 percent for a planned outage of the "C" intake bay. The unit was restored to 100 percent power on November, 16, 2005, and operated at essentially 100 percent power for the remainder of the inspection period.

Unit 3 began the inspection period shutdown for the 3R10 refueling outage. Unit 3 achieved criticality and synchronized to the grid on October 27, 2005, and then performed power ascension activities achieving full power on October 31, 2005. On November 2, 2005, Operations reduced power to 95 percent to repair a small steam leak on the first point feedwater heater. On November 4, 2005, Operations returned the unit to 100 percent power. On December 1, 2005, Operations conducted a downpower in response to a reactor coolant system leak. During the downpower, the turbine generator exhibited increased vibrations and operators manually tripped the turbine. The reactor then tripped on low "C" steam generator water level. The unit achieved criticality on December 4, 2005, and returned to full power on December 6, 2005. On December 14, 2005, the unit conducted a downpower to 50 percent power due to degraded intake structure conditions. The unit was restored to 100 percent power on December 15, 2005, and operated at essentially 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Seasonal Site Inspection (One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspectors performed a review of cold weather preparations during the onset of the cold weather season to evaluate the site's readiness for seasonal susceptibilities for both Unit 2 and Unit 3. The inspectors reviewed Dominion's preparations/protection for cold weather and its impact on the protection of safety-related systems, structures and components. The inspection was intended to ensure that the indicated equipment, its instrumentation, and its supporting structures were configured in accordance with Dominion's procedures and that adequate controls were in place to ensure functionality of the systems. The inspectors reviewed Dominion's procedure which implements their cold weather protection program to determine if procedural expectations were being met. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 System Inspection (One Unit 3 Sample)

a. Inspection Scope

The inspectors reviewed one sample of the readiness of the Unit 3 emergency core cooling system for extreme weather conditions, specifically, cold weather preparation. The inspection was intended to ensure that the indicated equipment, its instrumentation, and its supporting structures were configured in accordance with Dominion procedures and that adequate controls were in place to ensure functionality of the system. The inspectors reviewed licensee procedures and walked down the system. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R02 Evaluations of Changes, Tests, or Experiments (71111.02 - Thirty one samples)

a. Inspection Scope

The inspectors reviewed 11 safety evaluations (SEs), all of which were either issued during the past two years or associated with plant modifications that were completed during the past two years. The SEs reviewed were in the Initiating Event, Mitigating Systems, and Barrier Integrity cornerstones. The selected SEs were reviewed to verify that changes to the facility or procedures as described in the Updated Final Safety Analysis Reports (UFSAR) were reviewed and documented in accordance with 10 CFR 50.59, and that the safety issues pertinent to the changes were properly resolved or adequately addressed. The reviews also included the verification that Dominion had appropriately concluded that the changes and tests could be accomplished without obtaining license amendments. The SEs reviewed are listed in the Attachment.

The inspectors also reviewed 20 screen evaluations for changes, tests and experiments for which Dominion determined that SEs were not required. This review was performed to verify that Dominion's threshold for performing SEs was consistent with 10 CFR 50.59. The listing of the screened-out evaluations reviewed is provided in the Attachment.

In addition, the inspectors reviewed the administrative procedures that were used to control the screening, preparation, and issuance of the SEs to ensure that the procedure adequately covered the requirements of 10 CFR 50.59.

c. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

Partial System Walkdowns (71111.04Q - Three Unit 2 Samples and Three Unit 3 Samples)

a. Inspection Scope

The inspectors performed six partial system walkdowns during this inspection period. The inspectors reviewed the documents listed in the Attachment to determine the correct system alignment. The inspectors conducted a walkdown of each system to verify that the critical portions of selected systems were correctly aligned in accordance with these procedures and to identify any discrepancies that may have had an affect on operability. The inspectors verified that equipment alignment problems that could cause initiating events, impact mitigating system availability or function, or affect barrier functions, were identified and resolved. The following systems were reviewed based on their risk significance for the given plant configuration:

Unit 2

- Partial equipment alignment of the “A” emergency diesel generator, October 12, 2005;
- Partial equipment alignment of the turbine-driven auxiliary feedwater system, October 19, 2005; and
- Partial equipment alignment of the service water system, October 20, 2005.

Unit 3

- Partial equipment alignment of the “B” emergency diesel generator and station blackout diesel generator, October 9, 2005;
- Partial equipment alignment of the “A” motor-driven auxiliary feedwater system while the turbine-driven feedwater system was out of service for maintenance, October 26, 2005; and
- Partial equipment alignment of the “B” quench spray system following maintenance, October 27, 2005.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

Quarterly Sample Review (71111.05Q - Six Unit 2 Samples and Six Unit 3 Samples)

a. Inspection Scope

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

Unit 2

- High Pressure Safety Injection (HPSI) Pump Room, Auxiliary Building, -45'-6" Elevation (Fire Area A-4);
- Low Pressure Safety Injection (LPSI) Pump Room, Auxiliary Building, -45'-6" Elevation (Fire Area A-3);
- Containment Spray and HPSI/LPSI Pump Room, Auxiliary Building, -45'-6" Elevation (Fire Area A-8, Zone A);
- Reactor Building Closed Cooling Water Pump and Heat Exchanger Area, Auxiliary Building, -25'-6" Elevation (Fire Area A-1, Zone B);
- Diesel Generator Room A, Auxiliary Building, 14'-6" Elevation (Fire Area A-15); and
- Diesel Generator Room B, Auxiliary Building, 14'-6" Elevation (Fire Area A-16).

Unit 3

- East Motor Control Center and Rod Control Area, Auxiliary Building, 4'-6", 24'-6", and 43'-6" Elevation (Fire Area AB-5);
- West Service Water Cubicle, 14'-6" Elevation (Fire Area CSW-4);
- Containment Structure, -24'-6" thru 51'-4" Elevation (Fire Area RC-1);
- East Fuel Oil Vault, 14'-6" Elevation, (Fire Area EG-1);
- North Emergency Diesel Generator Enclosure, 11-'6", 24'-6", & 51'-0" Elevation (Fire Area EG-3, Zones A and B); and
- Station Blackout Diesel Generator Fuel Oil Storage Tank, 24'-6" Elevation (Fire Area SBO-2).

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - One Unit 2 Sample)

Internal Flooding Inspection

a. Inspection Scope

The inspectors reviewed one sample of flood protection measures for equipment in the safety related room listed below. This review was conducted to evaluate Dominion's protection of the safety-related system from internal flooding conditions. The inspectors performed a walkdown of the area, reviewed the Final Safety Analysis Report, the internal flooding evaluation and related documents. The inspectors compared the as-found equipment and conditions to ensure that they remained consistent with those indicated in the design basis documentation, flooding mitigation documents, and risk analysis assumptions. Documents reviewed during the inspection are listed in the Attachment.

Unit 2

- "A" Emergency Diesel Generator Room.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities (71111.08P - Two Unit 3 Samples)

a. Inspection Scope

The purpose of this inspection is to assess the effectiveness of Dominion's program for monitoring degradation of vital system boundaries including the reactor coolant system and other risk significant systems. The inspectors assessed the inservice inspection activities using the criteria specified in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. During this inspection period, no sample reviews were conducted because there were no recordable indications accepted for continued service during the previous refueling outage.

The inspectors observed in-process non-destructive examination (NDE) activities, reviewed documentation and interviewed personnel to verify that the activities were performed in accordance with the ASME Boiler and Pressure Vessel Code Section XI requirements. The sample selection was based on the inspection procedure objectives and risk priority of those components and systems where degradation would result in a significant increase in risk of core damage. The inspectors reviewed a sample of condition reports to assess Dominion's effectiveness in problem identification and resolution. The specific inspection activities included:

- Radiographic Test (RT) of pressurizer head safety nozzle penetrations 03X5644-A-T and 03X5648-B-T, bi-metallic welds attaching nozzle to the safe end on the pressurizer, carbon steel to stainless steel, RT tested using

Procedure VPROC-ISI00-00 Rev 0. Acceptance criteria of ASME Section XI, 1989 edition.

- Ultrasonic Test (UT) of Main Steam System (MSS), field weld MSS-31-FW-6, 8 inch diameter pipe to pipe butt weld, carbon steel to carbon steel, ASTM A 106 Grade B, UT tested using Procedure MP-PDI-UT-1, Rev 2. Acceptance criteria is all indications are reported for evaluation.
- Penetrant Test (PT) of Auxiliary Feedwater System, 16 inch diameter butt weld, field welds FWS-11-FW-70 and FW-72, carbon steel to carbon steel, SA 106 Grade C to SA 216 Grade WCB and SA 234 Grade WPC to SA 106 Grade C respectively, PT tested using procedure MP-LP-4, Rev 04. Acceptance criteria of ASME Section XI, 1989 edition.
- Magnetic Particle Test (MT) of MSS, field weld MSS-31-FW-6, 8 inch diameter butt weld, pipe to pipe, carbon steel to carbon steel, ASTM 106 Grade B, MT tested using procedure MP-MT-1, Rev 03. Acceptance criteria of ASME Section XI, 1989 edition.

Additionally, the inspectors reviewed the Millstone Unit 3 Steam Generator Eddy Current Data Analysis Reference Manual to determine whether selected steam generator tube inspections were performed consistent with the Electric Power Research Institute (EPRI) Pressurized Water Reactor Steam Generator Examination Guidelines. The inspectors reviewed and compared the Millstone Unit 3 Steam Generator Integrity Degradation Assessment to the EPRI Steam Generator Aging Management Guidelines. The inspectors reviewed the retrieval of a small section of bare metal weld wire located in the secondary side of one steam generator. The discovery was discussed with the steam generator inspection program manager. The loose part condition was entered into the corrective action program and the loose part was removed from the steam generator. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Requalification Activities Review by Resident Staff (71111.11Q - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspectors observed one sample of Unit 2 licensed operator simulator training on November 17, 2005, and one sample of Unit 3 licensed operator simulator training on November 18, 2005. The inspectors verified that the training evaluators adequately addressed that the applicable training objectives had been achieved. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Biennial Review by Regional Specialist (71111.11B - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

An inspector performed inspection activities from October 31, 2005, to November 2, 2005, using Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program," and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)," as acceptance criteria to evaluate conformance with simulator requirements specified in 10 CFR 55.46. This inspection focused primarily on assessment of the effectiveness of the facility licensee's process for continued assurance of simulator fidelity with regard to identifying, reporting, correcting, and resolving simulator discrepancies via a corrective action program. In particular, the inspection concentrated on followup of several previously documented simulator fidelity concerns, including the following:

- deficiencies associated with the April 17, 2005, event involving a reactor trip and safety injection;
- an unresolved item related to several simulator deficiencies identified during development and administration of the March 2005 Millstone Unit 2 initial license examination (URI 05000336/2005301-01);
- an unresolved item related to simulator scenario-based testing methodology (URI 05000336 and 05000423/2005008-01); and
- an unresolved item related to simulator demonstration of expected plant response (05000423/2005008-02).

Additionally, an inspection followup was conducted to evaluate licensee actions related to an unresolved item on technical specification requirements for nuclear instrument operability (URI 05000336/2005301-02).

A sample of simulator deficiency reports (DRs) closed in 2004 and 2005 were reviewed for the scope of each deficiency and the effectiveness of corrective actions.

On December 20, 2005, an inspector conducted an in-office review of licensee annual operating test results for 2005. The inspection assessed whether pass rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process." For both units, the inspectors verified that:

- Crew failure rate was less than 20 percent (Crew failure rate was 8.5 percent);
- Individual failure rate on the dynamic simulator test was less than or equal to 20 percent (Individual failure rate was 0 percent at both units);
- Individual failure rate on the walk-through test was less than or equal to 20 percent (Individual failure rate was 0 percent); and

- Overall pass rate among individuals for all portions of the exam was greater than or equal to 75 percent (Overall pass rate was 91.5 percent).

b. Findings

No significant findings were identified.

1R12 Maintenance Effectiveness (71111.12 - Two Unit 2 Samples and Two Unit 3 Samples)

Routine Maintenance Effectiveness Inspection (71111.12Q)

a. Inspection Scope

The inspectors reviewed four samples of Dominion's evaluation of degraded conditions, involving safety-related structures, systems and/or components for maintenance effectiveness during this inspection period. The inspectors reviewed licensee implementation of the Maintenance Rule (MR), 10 CFR 50.65, and verified that the conditions associated with the referenced condition reports (CRs) were appropriately evaluated against applicable MR functional failure criteria as found in licensee scoping documents and procedures. The inspectors also discussed these issues with system engineers and maintenance rule coordinators to verify that they were appropriately tracked against each system's performance criteria and that the systems were appropriately classified in accordance with MR implementation guidance. Documents reviewed during the inspection are listed in the Attachment. The following conditions were reviewed:

Unit 2

- "A" Emergency Core Cooling System Declared Inoperable Due To Maintenance Performed on the "A" Charging Pump (CR-05-12449); and
- "B" Emergency Diesel Generator Voltage Control Would Not Function In Automatic Or Manual (CR-05-11694).

Unit 3

- "B" Service Water Pump Strainer (CR-05-12544); and
- Auxiliary Feedwater System Control Valve Stroked Too Quickly (CR-05-12756).

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - Three Unit 2 Samples and Five Unit 3 Samples)

a. Inspection Scope

The inspectors reviewed eight samples of the adequacy of maintenance risk assessments of emergent and planned activities during the inspection period. The

inspectors utilized the Equipment Out of Service quantitative risk assessment tool to evaluate the risk of the plant configurations and compared the results to Dominion's stated risk. The inspectors verified that Dominion entered appropriate risk categories and implemented risk management actions as necessary. Documents reviewed during the inspection are listed in the Attachment. The inspectors verified the conduct and adequacy of scheduled maintenance risk assessments for plant conditions affected by the conduct of the following maintenance and testing activities:

Unit 2

- Risk assessment for work scheduled on October 5, 2005;
- Risk assessment for work scheduled on October 12, 2005; and
- Risk assessment for work scheduled on October 25, 2005.

Unit 3

- Shutdown safety assessment scheduled on October 4, 2005;
- Shutdown safety assessment scheduled on October 9, 2005;
- Shutdown safety assessment scheduled on October 17, 2005;
- “B” and “D” service water pump strainer inoperable emergent risk assessment on November 7, 2005; and
- “A” steam generator auxiliary feedwater check valve backleakage emergent risk assessment on November 22, 2005.

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Evolutions and Events (71111.14 - Four Unit 3 Samples)

a. Inspection Scope

The inspectors reviewed four samples of events on Unit 3 that demonstrated personnel performance in coping with non-routine evolutions and transients. The inspectors observed operations in the control room and reviewed applicable operating and alarm response procedures, technical specifications, plant process computer indications, and control room shift logs to evaluate the adequacy of Dominion's response to these events. The inspectors also verified the events were entered into the corrective action program to resolve identified adverse conditions. Documents reviewed during the inspection are listed in the Attachment.

Unit 3

- On October 19, 2005, Operations commenced a vacuum fill on the “A” loop in accordance with Operating Procedure 3216, “Reactor Coolant System Drain IPTE,” during the 3R10 outage. While operators were attempting to draw a vacuum on the “A” loop, they noticed water in the vacuum pump hoses and stopped the vacuum pump. Dominion conducted an investigation and

discovered that the “A” loop drain path was isolated and therefore unable to provide an adequate drain path. Operators drained approximately 3000-4000 gallons from the “A” loop and successfully drew a vacuum on the “A” loop and filled the loop on October 21, 2005.

- On October 27, 2005, Operations personnel responded to an unexpected reduction in primary plant pressure during a plant startup. During the transient, primary plant pressure dropped from the normal operating system pressure (2250 psig) to 2206 psig. The station entered Technical Specification (TS) 3.2.5, “Departure from Nucleate Boiling (DNB) Parameters”, since primary plant pressure dropped below the DNB Technical Specification limit of 2218 psig. Control room operators took prompt action and restored pressure to above the DNB limit in approximately three minutes and exited the Limiting Condition of Operation. Dominion determined that the pressure drop was caused by the main turbine load set controller, operating in load set mode, responding to a high grid frequency transient. There were no safety consequences associated with the transient.

- On November 2, 2005, Operations personnel discovered a small turbine building steam leak coming from a steam supply to the first point feedwater heater. The inspectors observed a 6" steam plume leaking around a ½" test connection plug located on top of a non-return check valve. Dominion evaluated the steam leak and decided to reduce power to 95 percent, isolate the feedwater heater, and cap the test plug to stop the steam leak. Following the repair, operators returned the feedwater heater back to service and increased power to 100 percent.

- On December 1, 2005, Operations personnel responded to indications of an approximate three to five gallon per minute reactor coolant system (RCS) leak. The inspectors responded to the control room and observed operator response. Operators implemented Abnormal Operating Procedure (AOP) 3555, “Reactor Coolant System Leak,” and entered TS 3.4.6.2, “RCS Operational Leakage.” Operators noted a rise in level of the containment drain transfer tank (CDTT). The CDTT, in part, collects leak-off from RCS loop stop and bypass valves and pressurizer spray valves. Operators conducted a rapid downpower, in accordance with AOP 3575, “Rapid Downpower,” to support containment entry to isolate the RCS leak to the CDTT. At approximately 39 percent power, the turbine was manually tripped due to high vibrations on the number 7 turbine bearing. Shortly afterward, the reactor automatically tripped on low steam generator water level in the “C” steam generator due to steam generator indicated water level shrink from the turbine trip.

- Operators implemented Emergency Operating Procedure (EOP) 35 E-O, “Reactor Trip or Safety Injection,” EOP 35 ES-0.1, “Reactor Trip Response,” and AOP 3550, “Turbine/Generator Trip,” for the reactor trip and turbine trip respectively. Following recovery actions from the reactor and turbine trip, operators entered containment and identified that the RCS leakage was coming from a leak-off line from the “B” loop cold leg stop valve. Operators closed the leak-off line isolation valve and secured the RCS leakage to the CDTT. Dominion subsequently determined that the primary packing of the “B” loop

cold leg stop valve was leaking and that the loop stop valve was not fully backseated. Dominion backseated the loop stop valve which isolated the valve packing from RCS pressure, and reopened the leak-off isolation valve to the CDTT. Dominion investigated the event, implemented corrective actions, conducted Operations training, and started up the plant on December 4, 2005.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - Three Unit 2 Samples and Four Unit 3 Samples)

a. Inspection Scope

The inspectors reviewed seven operability determinations associated with degraded or non-conforming conditions to ensure that operability was justified and that mitigating systems or those affecting barrier integrity remained available and no unrecognized increase in risk had occurred. The inspectors also reviewed compensatory measures to ensure that the compensatory measures were in place and were appropriately controlled. The inspectors reviewed licensee performance to ensure all related TS and Final Safety Analysis Report requirements were met. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed the following degraded or non-conforming conditions:

Unit 2

- Heat Trace for #2 Atmospheric Dump Valve is not Working (CR-05-13096);
- Intermittent “A” Charging Pump Low Lube Oil Pressure Alarm (CR-05-13163); and
- Potential for Significant Air Entrainment in Refueling Water Storage Tank Emergency Core Cooling Suction Lines (OD:MP2-014-05).

Unit 3

- Errors Identified in Loss of Coolant Accident Analysis (CR-05-11563);
- Verification of Residual Heat Removal Suction Relief Valves Setpoints;
- Receipt of Over-temperature Delta-temperature Alarms (CR-05-12217); and
- Stroke Time of “B” Steam Generator Turbine-Driven Auxiliary Feedwater Flow Control Valve Less Than Minimum Allowed (CR-05-12756).

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds (71111.16 - One Unit 3 Sample)

Selected Operator Work-arounds

a. Inspection Scope

The inspectors reviewed one risk significant operator work-around (OWA) for Unit 3 during the inspection period. The inspectors evaluated the conditions to determine if there were any effects on human reliability in responding to an initiating event or any adverse effects on the function of mitigating systems. The work-arounds were also reviewed to ensure compliance with licensee documents which administratively control OWAs. Documents reviewed during the inspection are listed in the Attachment.

Unit 3

- "C" Service Water Pump Strainer Blowdown Every 4 Hours During Operation

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17B - Sixteen samples)

a. Inspection Scope

The inspectors reviewed 16 risk-significant plant modification packages selected from the design changes that were completed within the past two years. The review was performed to verify that: (1) the design bases, licensing bases, and performance capability of risk significant structures, systems, and components had not been degraded through the modifications; and, (2) the modifications performed during increased risk configurations did not place the plant in an unsafe condition. The modifications reviewed are listed in the attachment.

The selected plant modifications were distributed among the Initiating Event, Mitigating Systems, and Barrier Integrity cornerstones. For these selected modifications, the inspectors reviewed the design inputs, assumptions, and design calculations to determine the design adequacy. The inspectors also reviewed field change notices that were issued during the installation to confirm that the problems associated with the installation were adequately resolved. In addition, the inspectors reviewed the post-modification testing, functional testing, and instrument and relay calibration records to determine readiness for operations. Finally, the inspectors reviewed the affected procedures, drawings, design basis documents, and UFSAR sections to verify that the affected documents were appropriately updated.

For the accessible components associated with the modifications, the inspectors also walked down the systems to detect possible abnormal installation conditions.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19 - Five Unit 2 Samples and Four Unit 3 Samples)

a. Inspection Scope

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

Unit 2

- Troubleshoot Control Element Assembly 18 Abnormal Voltage (M2-05-10549);
- Replace Refueling Water Storage Tank Level Indicator LI-3004 (M2-05-09591);
- "B" Reactor Building Component Cooling Water Heat Exchanger Temperature Control Valve Repair (M2-05-08956);
- Replace Degraded Tubing in Vital AC Switchgear Room Cooling System (M2-05-05878); and
- "B" Shutdown Cooling Heat Exchanger Outlet Stop Valve Solenoid (M2-04-11417).

Unit 3

- Repack Charging System Bypass Control Valve (M3-04-13022);
- Adjust Torque Switch on Residual Heat Removal Pump Hot Leg Suction Valves (M3-04-14650);
- Control Room Pressurization Manual Isolation Valve Repair (M3-05-13890); and
- "A" Emergency Diesel Generator Two Year Overhaul (M3-03-05325).

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20 - Two Unit 3 Samples)

Unit 3

.1 Unit 3 Refueling Outage

a. Inspection Scope

The inspectors reviewed the Shutdown Risk Review Team Pre-outage Report for the Unit 3 refueling outage, conducted September 29 through October 27, 2005, to confirm that Dominion had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the refueling outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the risk significant outage activities listed below. Additionally, the inspectors conducted a walkdown of containment prior to final closeout to ensure no loose material or debris was present which could be transported to the containment sump. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed selected aspects of the following evolutions:

- New fuel receipt inspection;
- Fuel handling, core loading, and fuel element assembly tracking;
- Reactor cooling system pressure, level, and temperature instrument operability;
- Decay heat removal system monitoring;
- Mid-loop and reduced inventory operations;
- Tagout control;
- Vacuum fill operations;
- Reactor Startup; and
- Power Ascension.

b. Findings

No findings of significance were identified.

.2 Forced Outage

a. Inspection Scope

The inspectors reviewed one sample of a forced outage following a Unit 3 reactor trip on December 1, 2005, for conformance to technical specification requirements and approved procedures. Selected activities were verified for the following evolutions:

- Site Organization Review Committee (SORC) meeting;
- Plant shutdown to mode 3;
- Plant heatup;
- Reactor startup and criticality; and
- Power ascension.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - Five Unit 2 Samples and Eight Unit 3 Samples)

a. Inspection Scope

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

Unit 2

- Steam Generator #1 Atmospheric Dump Valve Stroke and Timing In-Service Testing (IST) (SP-2610E);
- Reactor Coolant System Leakage (SP-2602A);
- "A" Auxiliary Feedwater Pump and Recirculation Check Valve IST (SP-2610AO);
- Engineered Safeguards Actuation System Undervoltage Sequencer Calibration and Functional Test (SP-2403BA); and
- Reaction Protection System Matrix Logic and Trip Path Relay Test (SP-2401D).

Unit 3

- Train "A" Loss of Power Test (SP-3646A.15);
- Residual Heat Removal Vent and Valve Lineup Verification (SP-3610A.3);
- Pressurizer Level Protection Set 1 Transmitter Calibration (SP-3442D01);
- Containment Sump Wide Range Level Transmitter Calibration (SP-3447B01);
- Pressurizer Pressure Narrow Range Channel 1 Transmitter Calibration (SP-3442C10);
- "A" Safety Injection Pump Bearing Oil Cooler Relief Valve IST (MF 3762WD-001);
- Low Power Physics Testing (SP-31008); and
- Turbine-Driven Auxiliary Feedwater Cold Start Surveillance (SP-3622.3).

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspectors reviewed two samples of temporary modifications to verify that the temporary modifications did not affect the safety function of important safety systems. The inspectors reviewed the temporary modifications and their associated 10 CFR 50.59 screening against the Final Safety Analysis Report and Technical Specification to ensure the modifications did not affect system operability or availability. Documents reviewed during the inspection are listed in the Attachment.

Unit 2

- "B" Reactor Coolant Pump Reactor Building Closed Cooling Water Low Flow Alarm Set Point Lowered (CR-05-08516).

Unit 3

- Control Building Service Water Enclosure Tube Closure Plate Control Room Habitability Seal (MP3-05-01).

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testing (One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

An onsite review of the Millstone public alert system was conducted to ensure that the system was capable of promptly notifying the public for taking protective actions. The inspector reviewed the following emergency preparedness (EP) procedures: MP-26-EPA-FAP-09, "Public Alert System Test and Maintenance," and MP-26-EPA-FAP08, "Public Alerting System Administration." In addition, the inspector reviewed maintenance and test records for calendar years 2004 and 2005 to determine: 1) if test failures were properly trended and assessed; 2) inoperable sirens were promptly repaired; and 3) preventative maintenance was routinely performed. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 2. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation (One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

An onsite review of the site emergency response organization (SERO) training records and augmentation staffing requirements was conducted to review the readiness of key staff to respond to an event. In addition, SERO pager test records from 2004 and 2005 were reviewed to determine Dominion's capability to meet their Emergency Plan (E-Plan) staffing commitments and timely activation of their emergency facilities. Condition reports associated with the pager tests were assessed to ensure pagers were properly maintained and effectively repaired. Finally, the E-Plan qualification records for key SERO positions were reviewed to ensure that the SERO's qualifications were current. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 3. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

A Green finding was identified by the inspector regarding ineffective corrective actions associated with individuals not maintaining their SERO qualifications current (Refer to Section 1EP5 for specific details).

1EP4 Emergency Action Level and Emergency Plan Changes (One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

During the period of June through September 2005, the NRC received changes made to Dominion's E-Plan in accordance with 10 CFR 50.54(q). Dominion had determined that the changes did not result in a decrease in effectiveness of the E-Plan and continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. A selected sample of E-Plan changes were reviewed in-office by the inspector. This review does not constitute approval of the changes and, as such, the changes and the associated 10 CFR 50.54(q) reviews are subject to future NRC inspection. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspector reviewed CRs generated by Dominion (listed in the Attachment) pertaining to issues identified from drills and exercises conducted since 2003 and the

overall conduct and maintenance of the EP program. The review was conducted to determine the significance of the issues, associated corrective actions, and whether repeat problems were occurring. Included in that review were several CRs related to the SERO not maintaining their qualifications current in 2004 and 2005. The inspector also conducted a review of Dominion's nuclear oversight program and the associated 2004 audit assessment reports to determine if the audits met the requirements of 10 CFR 50.54(t) and were self-critical. This inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 5.

b. Findings

Introduction. The inspector identified a Green finding for not implementing effective corrective actions to prevent repeat problems associated with maintenance of the training qualifications for the SERO staff.

Description. In 2004, a nuclear oversight quality assurance audit identified a deficiency regarding compliance issues in the area of maintaining, monitoring, and trending SERO qualifications. It was identified as a deficiency because it was a repeat finding from the 2003 audit. In six of the twelve months of 2004, Dominion identified examples of lapsed SERO staff qualifications. Dominion reviewed this problem and identified several causal factors including: weak program ownership; personnel not being informed when the qualifications had lapsed; and the training tracking system was not user friendly and not routinely utilized. Dominion implemented additional corrective actions to ensure that the SERO staff would maintain their qualifications including: development of an electronic notification when qualifications were due to expire and senior management review of program expectations with appropriate staff personnel.

Subsequently, during an actual event in April 2005, an individual reported to his assigned facility with qualifications that had expired in February 2005. The individual was not allowed to perform his assigned duties and was instructed to complete the re-qualification process. However, during this inspection, the NRC found the individual still had not completed the required training, and had remained in the SERO callout system. Additionally, the inspector identified two more individuals with lapsed qualifications. Dominion verified that all three individuals had received the reminder electronic messages. The inspector concluded that the corrective actions for resolving this issue were ineffective to prevent recurrence.

Two of the three individuals identified during the inspection with lapsed qualifications, immediately completed the required training specific to their assigned position. The third individual was immediately removed from the SERO callout system pending the completion of the required training.

Analysis. A performance deficiency occurred in which Dominion did not implement effective corrective actions to ensure that staff assigned to the SERO maintained their qualifications current. Since 2004, there were several examples in which the qualifications for SERO staff had expired. The corrective actions taken to prevent recurrence of this problem were ineffective as highlighted by the multiple repeat examples. The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training).

It affected the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. The inspector also determined that this finding was indicative of a cross-cutting issue in the area of problem identification and resolution in that the corrective actions taken were not effective in precluding recurrence.

This finding is not suitable for significance determination process evaluation, but has been reviewed by NRC management and determined to be a finding of very low safety significance (Green) since Dominion always maintained sufficient numbers of qualified SERO staff.

Enforcement. No violation of regulatory requirements occurred because the performance deficiency did not involve an explicit violation of a requirement. Dominion's failure to implement effective corrective actions to ensure that staff assigned to the SERO maintained their qualifications current, was considered a finding of very low safety significance (Green) (**FIN 05000336,423/2005005-01, Ineffective Corrective Actions to Prevent SERO Qualification Lapses**). Following the inspector's identification of the issue, SERO individuals with lapsed qualifications either immediately completed required training or were removed from the SERO callout system. This issue has been entered into Dominion's corrective action program as CR-05-10819.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety [OS]

2OS1 Access Control to Radiologically Significant Areas (71121.01 - Ten Unit 3 Samples)

a. Inspection Scope

During the period October 17 - 20, 2005, the inspector conducted the following activities to verify that Dominion was properly implementing physical, administrative, and engineering controls for access to locked high radiation areas and other radiologically controlled areas, and that workers were adhering to these controls when working in these areas during the Unit 3 refueling outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, Unit 3 TS, and Dominion's procedures. This inspection activity represents completion of ten (10) samples relative to this inspection area.

Plant Walkdown and RWP Reviews

- During the Unit 3 refueling outage, the inspector identified exposure significant work areas in the Unit 3 containment building. The inspector reviewed radiation survey maps and radiation work permits (RWP) associated with these areas to determine if the radiological controls were acceptable. Work areas reviewed included the pressurizer spray line, reactor vessel lower head, and regenerative heat exchanger cubicle.

- The inspector performed independent surveys of selected areas in the Unit 3 containment building to confirm the accuracy of survey maps, the adequacy of

postings, and that Technical Specification locked high radiation areas (TSLHRA) and very high radiation areas (VHRA) were properly secured and posted. Areas surveyed included the seal table, steam generator cubicles, reactor cavity drain line, and locked gates to the regenerative heat exchanger room and under reactor vessel area.

- In evaluating RWPs, the inspector reviewed electronic dosimeter dose/dose rate alarm reports to determine if the setpoints were consistent with the survey indications and plant policy. The inspector verified that workers were knowledgeable of the actions to be taken when a dosimeter alarms or malfunctions for tasks being conducted under selected RWPs. Work activities reviewed included surveying the under reactor vessel area for downgrading from a VHRA to a TSLHRA (RWP-392/1), boric acid removal from regenerative heat exchanger valves (RWP-343/3), and pressurizer spray line weld repairs (RWP-360/2).

- The inspector reviewed the RWPs and associated as low as reasonably achievable respiratory protection evaluations for potential airborne radioactivity areas located in the Unit 3 containment building. Respiratory protection evaluations reviewed included reactor cavity decontamination (No. 305/2), reactor disassembly (No. 301/2), pit seal repairs (No. 314/1), and steam generator primary side channel head entries (RWP 306/4).

- The inspector reviewed Personnel Contamination Reports (PCRs) and the dose assessments, for personnel contaminations whose internal dose could potentially exceed 50 mrem, to evaluate the assessment methods. PCR Nos. M3-05-001 through M3-05-009 were reviewed.

<u>High Risk Significant, High Dose Rate High Radiation Areas, and VHRA Controls</u>

- The inspector attended the pre-job briefings and reviewed the preparations for tasks involving entries into potential VHRAs and TSLHRAs. Tasks reviewed included radiation protection technicians surveying under the reactor vessel, following incore thimble insertion, for the purpose of down grading the area from a VHRA to TSLHRA; and decontamination personnel entering the regenerative heat exchanger cubicle, a TSLHRA, to clean boric acid build-up on various valves.

- The inspector inventoried keys to VHRA and TSLHRAs stored at the Unit 3 control point and in the Unit 3 control room to verify that all keys were accounted for.

- The inspector verified that VHRA, such as the under vessel hatchway and incore instrument area, were properly secured and posted and that surrounding area dose rates met regulatory criteria.

- The inspector reviewed CRs relative to controlling work activities in the Unit 3 radiological controlled areas to assess the threshold for which problem reports were initiated and the timeliness of the corrective actions.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02 - Five Unit 3 Samples)

a. Inspection Scope

During the period October 17 - 20, 2005, the inspector conducted the following activities to verify that Dominion was properly implementing operational, engineering, and administrative controls to maintain personnel exposure as low as is reasonably achievable (ALARA) for tasks conducted during the Unit 3 refueling outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and Dominion's procedures. This inspection activity represents completion of five (5) samples relative to this inspection area.

Radiological Work Planning

- The inspector reviewed pertinent information regarding cumulative exposure history, current exposure trends, and ongoing activities to assess current performance and outage exposure challenges. The inspector determined the site's 3-year rolling collective average exposure and compared it to current trends.

- The inspector reviewed the refueling outage work scheduled during the inspection period and the associated work activity exposure estimates. Scheduled work included, reactor cavity drain-down and decontamination, pressurizer spray line weld repairs, and containment demobilization.

- The inspector reviewed the ALARA Reviews (AR), ALARA Challenge Board meeting minutes, and Work-In-Progress ALARA Evaluations that addressed estimating and controlling dose for specific work activities. Work activities reviewed included steam generator inspection and maintenance activities, pressurizer spray line repairs, valve repairs, various in-service inspection activities, and reactor refueling tasks.

- The inspector reviewed 3R10 dose summary reports, detailing worker estimated and actual exposures through October 19, 2005, for jobs performed during the refueling outage to compare actual exposures with forecasted data.

- The inspector evaluated exposure mitigation requirements specified in RWP's and associated ARs. Jobs reviewed included reactor vessel disassembly/reassembly (RWP 301/302/303, AR 3-05-01), scaffolding installation/removal (RWP 231/331, AR 3-05-13), and snubber inspections (RWP 232/332, AR 3-05-06).

- The inspector evaluated the departmental interfaces between radiation protection, operations, maintenance crafts, and engineering to identify missing ALARA program elements and interface problems. The evaluation was

accomplished by interviewing the ALARA Supervisor and Radiation Protection Manager, and reviewing recent ALARA Council meeting minutes and ALARA Challenge Board minutes. The inspector also attended two (2) ALARA Council meetings, and two (2) pre-job briefings to assess interdepartmental coordination. The inspector also interviewed the Unit 3 Health Physics Shift Supervisor regarding dose challenges in completing outage preparations and coordinating activities during the outage.

- The inspector determined if work activity planning included the use of temporary shielding, system flushes, and operational considerations; i.e., scheduling work when the steam generators were filled, to further minimize worker exposure. The inspector performed independent measurements on various system components including the excess letdown heat exchangers, reactor vessel level indication system, and various Unit 3 reactor building work areas to determine if temporary shielding was appropriately utilized.

Verification of Dose Estimates and Exposure Tracking Systems

- The inspector reviewed the assumptions and basis for the annual site collective exposure estimate and the Unit 3 refueling outage dose projection.

- The inspector reviewed personnel contamination reports for selected personnel to evaluate the contamination control measures.

- The inspector reviewed Dominion's method for adjusting exposure estimates, and re-planning work, when actual dose approached the estimated dose. The inspector attended ALARA Council meetings regarding repairing the pressurizer spray line and evaluated the exposure controls applied to this task (RWP 360/2).

- The inspector reviewed Dominion's exposure tracking system to determine whether the level of dose tracking detail, exposure report timeliness, and exposure report distribution was sufficient to support the control of collective exposures. Included in this review were departmental dose compilations, and individual dose records.

Job Site Inspection and ALARA Control

- The inspector observed maintenance activities being performed for containment demobilization, pressurizer spray line repair, and boric acid removal from regenerative heat exchanger valves. The inspector verified that the appropriate radiological controls were implemented including radiation protection technician coverage, contamination mitigation, properly worn dosimetry, and that workers were knowledgeable of job site radiological conditions.

- The inspector reviewed the exposure of individuals in selected work groups, including maintenance crafts to determine if supervisory efforts were being made to equalize doses among the workers.

Source Term Reduction and Control

- The inspector reviewed the current status and historical trends of the Unit 3 source term. Through interviews with the Radiation Protection and Chemistry Manager and the ALARA Supervisor, the inspector evaluated Dominion's source term measurements and control strategies. The inspector reviewed reactor coolant chemistry data to evaluate the effectiveness of post shutdown source term reduction efforts. Specific strategies being employed included system flushes, installation of temporary shielding, and chemistry controls.

Radiation Worker Performance

- The inspector observed radiation worker and radiation protection technician performance for selected tasks. Tasks observed included steam cleaning of regenerative heat exchanger valves, under reactor vessel surveying, and containment demobilization. The inspector determined whether the individuals were aware of radiological conditions, access controls, that the skill level was sufficient with respect to the radiological hazards and the work involved.

- The inspector reviewed condition reports, related to radiation worker and radiation protection technician errors, and personnel contamination reports to determine if an observable pattern traceable to a common cause was evident.

Declared Pregnant Workers

- The inspector determined that no declared pregnant workers were employed to perform outage related activities in the radiologically controlled areas.

Problem Identification and Resolution

- The inspector reviewed elements of Dominion's corrective action program related to implementing the radiological controls program to determine if problems were being entered into the program for resolution. Details of this review are contained in Section 4OA2 of this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification (71151)

.1 Occupational Exposure Control Effectiveness (One Unit 2 and One Unit 3 Sample)

a. Inspection Scope

The inspector reviewed implementation of Dominion's Occupational Exposure Control Effectiveness Performance Indicator Program. Specifically, the inspector reviewed CRs,

and associated documents, for occurrences involving locked high radiation areas, VHRAs, and unplanned exposures against the established performance indicator criteria to verify that all occurrences that met the criteria were identified and reported. This inspection activity represents the completion of one (1) sample relative to this inspection area; completing the annual inspection requirement.

b. Findings

No findings of significance were identified.

.2 RETS/ODCM Radiological Effluent Occurrences (One Unit 2 and One Unit 3 Sample)

a. Inspection Scope

The inspector reviewed relevant effluent release reports for the period January 1, 2004, through June 30, 2005, for issues related to the public radiation safety performance indicator, which measures radiological effluent release occurrences that exceed 1.5 mrem/qtr whole body or 5.0 mrem/qtr organ dose for liquid effluents; 5mrads/qtr gamma air dose, 10 mrad/qtr beta air dose, and 7.5 mrads/qtr for organ dose for gaseous effluents. This inspection activity represents the completion of one (1) sample relative to this inspection area; completing the annual inspection requirement.

The inspector reviewed the following documents to ensure Dominion met all requirements of the performance indicator from the first quarter 2004 to the third quarter 2005:

- monthly projected dose assessment results due to radioactive liquid and gaseous effluent releases;
- quarterly projected dose assessment results due to radioactive liquid and gaseous effluent releases; and
- dose assessment procedures.

b. Findings

No findings of significance were identified.

.3 Emergency Preparedness (Three Unit 2 Samples and Three Unit 3 Samples)

a. Inspection Scope

The inspector reviewed Dominion's procedure for developing the data for the Emergency Preparedness PIs which are: (1) Drill and Exercise Performance; (2) Emergency Response Organization Drill Participation; and (3) Alert and Notification System (ANS) Reliability. The review covered the period of September 2004 to September 2005. The inspector also reviewed Dominion's 2004 and 2005 drill and exercise reports, training records and ANS test data to verify the accuracy of the reported data. The review was conducted in accordance with NRC Inspection Procedure 71151. The acceptance criteria used for the review were 10 CFR 50.9 and NEI 99-02, Revision 3, "Regulatory Assessment Performance Indicator Guideline."

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Review of Items Entered into the Corrective Action Program

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for followup, the inspectors performed a daily screening of items entered into Dominion's corrective action program. This was accomplished by reviewing the description of each new problem evaluation report and attending daily management review committee meetings.

.2 Semi-Annual Review to Identify Trends

a. Inspection Scope

The inspectors performed a semi-annual review to identify trends that might indicate the existence of a more significant safety issue. The inspectors reviewed Unit 2 and Unit 3 performance indicator monthly reports, CRs, system health reports, quality assurance audits, self-assessment reports, maintenance reports, and NRC inspection reports and interviewed key personnel to evaluate if a trend existed.

b. Findings and Observations

Operability Determinations. No findings of significance were identified, however, the inspectors continue to follow operability determination (OD) issues in relation to a trend originally identified in NRC Inspection Report 05000336/2004008 and 05000423/2004008. In that report, the inspectors discussed a lack of rigor by Dominion relating to both the understanding of the effects of degraded conditions and the technical bases used in evaluating degraded conditions in ODs. Additionally, the inspectors identified that a contributing factor was the failure to appropriately apply Dominion’s OD procedure. Multiple examples of both non-cited and minor violations were discussed that exemplified this negative trend.

During 2005, the inspectors have identified additional concerns with the quality of ODs and the implementation of Dominion’s OD procedure. Most notably, a finding was issued in NRC Inspection Report 05000336/2005004 and 05000423/2005004 which discussed several examples where Dominion did not adequately implement their OD process. Dominion has identified OD quality as a key site issue that is being addressed under a senior site management initiative for improvement. An OD improvement team has been established, procedural guidance has been reviewed and revised, and Operations training is being developed to improve performance in this area. Additionally, revised Generic Letter 91-18, “Operable/Operability: Ensuring the Functional Capability of a System or Component,” guidance will be reviewed for incorporation into Dominion procedural guidance and training forums. In consideration of additional OD issues during 2005 and in-progress corrective actions by Dominion,

the resident inspectors will continue to follow OD issues and programmatic corrective actions within the framework of the baseline inspection program.

.3 Annual Sample Review

Inservice Inspection Activities

Unit 2

a. Inspection Scope

The inspector reviewed a sample of corrective action reports shown in the Attachment, which identified problems related to in-service inspection issues. The inspector verified that problems were being identified, evaluated, appropriately dispositioned, and entered into the corrective action program.

b. Finding

No findings of significance were identified.

.4 ALARA Planning and Controls

a. Inspection Scope

The inspector reviewed eight (8) CRs, four (4) Nuclear Oversight Department Field Observation reports, and twelve (12) Quality Control Quick Data Check-lists, relating to maintaining personnel exposure ALARA during the Unit 3 refueling outage, to evaluate the threshold for identifying, evaluating, and resolving radiological control problems. This review was conducted against the criteria contained in 10 CFR 20, TS, and Dominion's procedures.

b. Findings

No findings of significance were identified.

.5 10CFR 50.59 and Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed CRs associated with 10 CFR 50.59 and plant modification issues to ensure that Dominion was identifying, evaluating, and correcting problems associated with these areas and that the planned or completed corrective actions for the issues were appropriate. The inspectors also reviewed a sample of Dominion's self-assessments related to 10 CFR 50.59 SEs and plant modification activities. The listing of the condition reports and self assessments reviewed is provided in Attachment 1.

b. Findings

No findings of significance were identified.

.6 Cross-References to Problem Identification and Resolution Findings Documented Elsewhere

Section 1EP5 describes a failure to implement effective corrective actions to ensure SERO staff maintained their qualifications current in that the corrective actions taken were not effective in precluding recurrence.

Section 4OA5.2 describes a failure to formally disposition leakage into the "B" EDG rocker arm lube oil system.

4OA3 Event Followup (71153)

a. Inspection Scope

On December 1, 2005, Operations personnel responded to a RCS leak, turbine trip, and automatic reactor trip. See Section 1R14 for a detailed discussion on this event. Resident inspectors responded to the control room, verified emergency action level and notification considerations, and reviewed the event in accordance with Inspection Procedure 71153, "Event Follow-up," and Management Directive 8.3, "NRC Incident Investigation Program."

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Temporary Instruction 2515/160 Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors (NRC Bulletin 2004-01)

a. Inspection Scope

At Millstone Unit 3, a bare metal visual (BMV) and volumetric (VT) examination was performed on all five pressurizer penetration nozzles fabricated from Alloy 82/182/600 material to verify the absence of boric acid crystals and to verify the integrity of the pressurizer penetrations and steam space connections. As stated in its response to the NRC Bulletin 2004-01, there is a total of five penetration nozzles fabricated from Alloy 82/182/600 material at Millstone Unit 3. Dominion committed to perform BMV as well as VT examinations of the five nozzles. The only impediment to the BMV examinations was the installed insulation around the five penetrations. After removing the insulation, the observed penetrations were free of material that could adversely affect viewing the pressurizer penetrations. BMV showed no evidence of boric acid leakage or material deficiencies (i.e., cracks, corrosion, etc.) at any of the penetration nozzles. VT examinations identified indications in the PZR spray nozzle. The inspections conducted at Millstone Unit 3 during this outage were consistent with Dominion's bulletin response

dated July 27, 2004, and supplemental response dated October 4, 2004. Documents reviewed during the inspection are listed in the Attachment.

Bare Metal Visual Examination (03.02)

a., b. Direct BMV examination of the Alloy 82/182/600 pressurizer penetrations were performed by Dominion's NDE technicians certified to ASME, Section XI, Level II or Level III for visual examiners qualification and training requirements as described in ASME Code Section XI. The NDE technicians performing the VT examinations were qualified in conformance with Dominion's inspection procedures.

c. The inspectors reviewed Dominion's examination procedures contained in its "Boric Acid Control Program, MP-24-BACCFAP01, Rev. 000-01." The examination procedures for boric acid corrosion control and visual inspection for evidence of boric acid leakage were adequate to identify reactor coolant leakage in the penetration nozzles or steam space piping components.

d. All five pressurizer penetration nozzles were inspected by a qualified NDE technician using direct visual examinations. The examiners achieved a visual examination coverage of 360E around the circumference of the nozzles.

e. The inspectors independently examined the physical condition of the five Alloy 82/182/600 penetration nozzles with Dominion's examiners. The nozzles were free of debris, dirt, and boron deposits. There was no viewing obstruction to perform direct visual examination of the five penetration nozzles.

f. The inspectors confirmed that insulation was removed from the pressurizer nozzles. The inspectors visually examined 360E around the circumference of each of the penetration nozzles. No debris, dirt, or boric acid deposits were identified.

g. No boric acid deposits were identified.

h., I. No anomalies, deficiencies, or discrepancies associated with RCS structures or the examination process were identified.

Volumetric Examination (03.03)

a. As committed in its response to the Bulletin 2004-01, Dominion performed VT examinations of the five pressurizer nozzles containing Alloy 82/182/600 welds. The examination scope is consistent with the requirements set forth by the Bulletin.

b. Dominion's VT examination methodologies were reviewed and found to be sufficient in identifying indications that would exist in the welds. Dominion chose to perform RT and manual UT of the nozzles. If indications are detected, an automatic UT, capable of identifying and sizing flaws, would be performed to better characterize any flaws that exist.

VT examinations of the Alloy 82/182/600 pressurizer penetrations were performed by Dominion's and its contracted NDE technicians using RT and UT. The technicians were certified Level II or Level III examiners.

c. Dominion performed manual UT examinations of the five nozzles. Because of geometry restraint of the nozzles' surface, only 50 percent coverage of the examination volume was obtained. No reportable indications were detected.

Dominion performed RT examinations of the five nozzles. The RT radiographs were examined by Dominion's qualified Level III examiner. The examination showed two indications in its PZR spray nozzle, Weld # 03-X-5641-E-T. No indications were found in the other four nozzles. The inspector reviewed the RT radiographs of all five nozzles with Dominion's examiner. The two indications were evaluated as three flaws as described below.

Dominion performed an automatic UT examination of the PZR 6" spray nozzle which included surface machining and preparation to provide a better UT transducer access. The examination was performed by qualified Level II and Level III examiners with Procedure WDI-STD-119A Revision 1. This is a fully qualified procedure for flaw detection and sizing in accordance with the EPRI Performance Demonstration Initiative Program. The inspector observed the surface preparation and automatic UT examination process. Dominion performed the examination consistent with the procedures.

Results provided by Dominion are as follows: Flaw #1 was characterized as "lack of fusion" located at or near the ID surface 360E circumferentially. It is in the butter to weld region with 16.4 inch in length, and a maximum depth of 0.214 inches. Flaw #2 is also a circumferential flaw characterized as "lack of fusion" about 7.7 inches in length near the safe-end side of the weld. Max depth is 0.219 inches. Flaw #3 is an axial flaw originated from the ID surface located in the butter. It was measured 0.25 inches in length, 0.214 inches through-wall (depth).

Dominion performed a structural weld overlay on the spray nozzle to address these flaws.

b. Findings

No findings of significance were identified.

.2 (Closed) URI 05000423/2005003-04, Failure to Formally Disposition Leakage into the 'B' EDG Rocker Arm (RA) Lubricating Oil (LO) System

This URI was opened to assess Dominion's response to an abnormal LO sample result for the 'B' EDG identified on June 17, 2005, and to follow-up on Dominion's cause determination and corrective actions. Documents reviewed are listed in the Attachment.

Introduction. The inspectors identified a Green violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to properly assess compensatory

actions and to take timely actions to correct the introduction of water into the Unit 3 'B' EDG RA LO system. Specifically, following the discovery of elevated water content in the 'B' EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the system was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, 3) and did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the 'B' EDG on September 27, 2005, and the unavailability of the 'B' EDG for approximately 5 days while unplanned corrective maintenance was performed.

Description. On June 17, 2005, Dominion identified water in the 'B' EDG RA LO system. The inspectors generated an URI at that time to assess Dominion's corrective actions and cause analysis. On September 27, 2005, Dominion drained the RA LO reservoir and replaced the LO with fresh oil in preparation for a 'B' EDG surveillance run. Approximately 1.5 ounces (47 milliliters) of water was drained from the reservoir prior to the surveillance run. Dominion then conducted the monthly operability run for approximately one hour and sampled the RA LO at which point approximately one quart of water was drained from the reservoir. The RA LO sump capacity is approximately 36 quarts. Dominion removed the cylinder rocker arm covers and identified water leaking from an exhaust valve on the #7 cylinder head. Dominion declared the 'B' EDG inoperable and initiated a maintenance activity to replace cylinder exhaust valve O-rings. This was an unplanned TS entry which caused the unavailability of the EDG for approximately 5 days during subsequent corrective maintenance. The 'B' EDG was restored to service on October 2, 2005.

Dominion determined that four additional cylinders (3-5-6-8) had water leakage similar to the #7 cylinder. The inspectors noted that the O-rings for the exhaust cages associated with these cylinders exhibited brittle characteristics compared to the O-rings for the cylinders that did not experience water leakage. Dominion determined that it was likely that these O-rings were the original rings installed in the 'B' EDG approximately 20 years ago and had not been replaced at the 10 year interval as recommended by the Fairbanks-Morse owners group in 1998. Dominion did, however, find adequate documentation to support that the other non-leaking O-rings had been replaced between 1989 and 1999. Dominion determined that the jacket water that cools these exhaust valve cages was leaking through the brittle O-rings into the RA LO system.

As documented in the corrective action program, on July 11, Dominion recognized that there appeared to be a small cooling water leak into the RA LO system. A reasonable Expectation of Continued Operability and an Operability Determination (OD) were generated in which Operations determined the EDG to remain operable. Dominion subsequently closed the OD on July 12 because they determined that the EDG was fully qualified. On August 2, Dominion identified that the cause of the water in-leakage was from leaking jacket water O-rings. Dominion subsequently scheduled corrective maintenance for February 2006. The inspectors noted that the 'B' EDG was a risk

significant component as demonstrated by the Millstone 3 Probabilistic Risk Assessment (PRA) model.

On December 20, 2005, Dominion completed an evaluation (AR 05005955) to determine the effect the water discovered in the RA LO system on September 27 had on the 'B' EDG's ability to run for a 24 hour period. This evaluation and the previous July 11 OD did not ensure that the 'B' EDG was fully qualified per Generic Letter 91-18 in that the evaluations did not specify compensatory actions, such as, staging equipment needed to recover from O-ring failures or performing time studies, operator pre-briefs on the degraded condition and its implication on EDG operation, or walkdowns to drain and refill the RA LO reservoir tank in the event that in-leakage caused a high level alarm in the reservoir. Also, the OD and CR evaluation did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable. Dominion's December 20 evaluation did determine that water would enter the RA LO system through the leaking exhaust valve cage O-rings and accumulate in the bottom of the reservoir tank. Dominion determined that this condition would not have affected the 'B' EDG from operating as designed during an assumed PRA mission time of 24 hours. Dominion's evaluation, however, did not adequately address EDG function beyond 24 hours.

The inspectors conducted a review of Dominion's evaluation. The inspectors determined that Dominion's evaluation did provide an adequate basis that concluded the 'B' EDG could have operated for up to 24 hours during an event. However, Dominion did not provide a basis describing how the machine would have operated during a design basis event beyond 24 hours. The inspectors determined that it was reasonable to believe that the 'B' EDG would have failed at some point beyond 24 hours once the RA LO pump began to pump water to the rocker arm components. While this failure was unlikely to occur within 24 hours following an event, it was likely that the 'B' EDG would have failed at a subsequent point prior to completion of the design basis mission time (absent manual action in response to a RA LO oil reservoir tank high level alarm to drain and refill the tank while the engine was running).

The performance deficiency was the failure to take effective corrective actions to properly assess compensatory actions and correct water leakage into the 'B' EDG RA LO system prior to the development of significant water leakage into the RA LO system on September 27, 2005.

Analysis. Traditional enforcement does not apply to this finding since there were no actual safety consequences, no impact on the NRC's ability to perform its regulatory function, and no willful aspects. The finding was more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and the availability and reliability of the 'B' EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance (Green) by performing a Phase 1 significance determination using NRC IMC 609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Specifically, this finding screened to Green because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more non-technical specification

trains based on a 24 hour PRA mission time, and was not potentially risk significant due to seismic, flooding, or severe weather initiating events.

This finding was related to the cross-cutting issue of problem identification and resolution because Dominion failed, once the source of the water contamination had been identified, to properly assess compensatory actions and take effective corrective actions for water in-leakage into the 'B' EDG RA LO system. The delay resulted in the unplanned unavailability of the 'B' EDG and the likely failure of the EDG if it had been called upon to perform its design function for greater than 24 hours.

Enforcement. Code of Federal Regulation 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to this requirement, from June 17 to September 27, 2005, Dominion failed to properly assess and correct known water leakage into the 'B' EDG rocker arm lubricating oil system prior to EDG inoperabilty despite the source and cause of the leakage having been identified on July 11. Also, Dominion failed to properly assess the degraded condition, in that, compensatory measures to ensure the system was maintained in a fully qualified status while the degradation continued to exist were not identified or implemented despite performance of a July 11 operability determination. This issue was determined to be of very low safety significance (Green) and has been addressed in Dominion's corrective action program (CR-05-10248). After declaring the 'B' EDG inoperable on September 27, Dominion performed corrective maintenance to replace the leaking O-rings, returning the EDG to service on October 2. This violation is being treated as non-cited violation consistent with Section VI.A of the NRC Enforcement Policy (**NCV 05000423/2005005-02, Failure to properly assess and correct known water leakage into the "B" EDG rocker arm lube oil system**).

.3 (Closed) URI 05000336/2005003-03, FSAR statements do not support CEDM design attribute

As a result of inspector questions during an NRC inspection of the Unit 2 reactor vessel head replacement in February 2005, Dominion determined it could not locate any actual test or other reference material to support a statement in the UFSAR regarding the control element drive mechanisms (CEDMs). Specifically, section 3.3.3.3 of the UFSAR stated that a loss of cooling air would not prevent the CEDM from releasing the control element assembly (CEA) if a reactor trip was initiated, and that tests had shown that the CEDM was capable of dropping the CEA after four hours of operation in the hold mode without cooling air. Dominion initiated CR-05-01483 to address the issue, and generated a Reasonable Assurance of Continued Operability. The URI was opened to evaluate the adequacy of Dominion's resolution of the issue.

As part of the corrective actions for this issue, Dominion initiated a change to the UFSAR to replace the reference to the test with additional design information regarding the CEDMs. To evaluate the adequacy of the UFSAR change, the inspector reviewed FSAR Change Request 04-MP2-015 and its associated 10 CFR 50.59 Screen Form, the associated vendor technical manual and design specifications, and UFSAR section 8.9.1, Control Element Drive Mechanism Cooling System. The inspector noted that the function of the CEDM cooling system is to provide acceptable coil life and maintain an

acceptable coil replacement cycle, and that the CEDMs themselves are designed to operate at temperatures and pressures significantly higher than those at normal operating conditions. The inspector also noted that the CEDM is designed to withstand a complete loss of cooling for a four-hour period in the hold mode with the plant at normal operating temperature and pressure, and be capable of normal operation after restoration of cooling. The inspector verified that demonstration of this requirement was documented in the test report. The inspector did not identify a specific design specification or test requirement regarding the ability of the CEDM to drop the CEA after four hours of operation in the hold mode without cooling air. Finally, the inspector noted that Dominion had procedures in place which direct the operators to trip the reactor upon a loss of CEDM cooling. As a result, the inspector found the 50.59 screen to be adequate, and no violations of requirements were identified. A list of documents reviewed is included in the attachment to this inspection report. Based on the above, this Unresolved Item is closed.

.4 (Closed) URI 05000336/2005301-01, Unit 2 Simulator Deficiencies Identified During NRC Exam Process

The inspector reviewed three deficiencies related to simulator fidelity and addressed them as closed issues. They had previously been documented in an Initial Examination Report 05000336/2005301 (June 2005).

URI 05000336/2005301-01 described three examples of potentially inaccurate fidelity between the Unit 2 simulator and the reference plant:

- Modeling of Air Flow in Enclosure Building Filtration (EBFS) and Hydrogen Purge Systems - Attempted to align Facility 1 and 2 EBFS cross-train with Facility 2 and 1 hydrogen purge valves to depressurize containment during validation of the NRC exam on the Unit 2 simulator. Containment pressure did not respond as expected.

  Dominion entered this issue into their simulator corrective action process under DR #2005-2-0013 and modified the logic of the air flow calculation in the EBFS and hydrogen purge system to properly model these containment depressurization flowpaths. The modeling discrepancy appeared to be beyond the scope of current simulator operational testing. The discrepancy had apparently not been identified during model verification and validation testing performed several years ago and had apparently not been previously encountered through use of plant procedures on the simulator.

- Primary Makeup Water (PMW) Flow Controller and Flow Totalizer Indicated Flow With the Valve Closed - Observed approximately 0.1 gpm flow indicated on the PMW flow controller during an NRC exam on the simulator with the flow control valve closed.

  Dominion entered this issue into their simulator corrective action process under DR#2005-2-0023. It was determined to be a minor hardware issue and was corrected through recalibration of the flow controller hardware.

- VCT Outlet Valve Opened When Control Switch Placed in Auto - During the validation of the NRC exam in February 2005, VCT outlet valve CH-501 was observed to automatically open when its control switch was returned to the AUTO position from the CLOSE position. VCT level had remained in its normal operating range during the time that the handswitch was in CLOSE. A review of the valve's electrical schematic (dwg no. 25203-32009 sht 6) revealed that the valve, by design, will only receive an open signal automatically from the AUTO position for a two-second period following the clearing of a VCT low-low level condition.

  Dominion entered this issue into their simulator corrective action process under DR#2005-2-0021. The valve control logic in the simulator coding was modified to include relays associated with the valve automatic operation and the DR was closed with no further corrective action. In August 2005, several months after identification of this simulator modeling deficiency, an operations' training supervisor who was assisting in the plant during the refueling outage, and aware of the recent simulator change, observed a problem with the same valve in the plant. He noted that CH-501 in the plant incorrectly stroked open from the AUTO position just as the simulator had prior to correction of the modeling problem. Condition Report CR-05-08322 was generated to address the difference between CH-501 operation and design and is currently scheduled for troubleshooting and repair in the next refueling outage. This plant problem has been evaluated by the facility as not impacting valve operability as it does not affect the ability of the valve to close on a safety injection actuation signal or to be closed manually. A Condition Report action has been generated for engineering to conduct a review of the implementation of this modification prior to performing the CR-05-08322 troubleshooting activity.

  Further investigation by Dominion has determined that the plant design change was implemented in 1997 as part of 14 modifications to address "hot short" concerns. These modifications were incorrectly assessed at the time as not impacting the simulator. A review of these changes has revealed that a total of 3 of the 14 modifications required simulator changes and should have been identified as impacting the simulator. All 3 of these modeling deficiencies (affecting CH-501, CH-504 and SI-651) have been corrected. Condition Report CR-05-13556 was initiated for extent of condition to evaluate whether "hot short" modifications on Unit 3 have been fully implemented on the Unit 3 simulator.

  Inspector discussions with Dominion, and review of their actions taken, resulted in the NRC determining that, for one of the apparent simulator fidelity issues (PMW flow controller indication), no actual lack of simulator fidelity existed. Corrective actions fine-tuned the controller indication to better match reference plant indications.

  The inspector further determined that for the other two apparent simulator fidelity issues (EBFS flow and CH-501 response), simulator modeling was incorrect and simulator fidelity had not been maintained. NRC Inspection Manual Chapter 0612 defines a performance deficiency as "an issue that is the result of a licensee not meeting a requirement or standard where the cause was reasonably

within Dominion's ability to foresee and correct, and which should have been prevented." Although Dominion did not meet the simulator fidelity requirements of 10 CFR 55.46 for these two issues, the inspector determined that the causes of each of these issues were not reasonably within Dominion's ability to foresee and correct within the current simulator operational testing program, and therefore no performance deficiency was identified. This conclusion was based on the fact that these issues would not be apparent during conduct of normal simulator periodic testing or normal simulator operations. The EBFS flow deficiency was so readily apparent when the system was aligned for venting containment that it is unlikely the evolution had been previously conducted during any training session. The VCT outlet valve handswitch is taken to CLOSE during some simulated evolutions. By procedure, operators are directed to open the valve later during these evolutions. Through questioning, the inspector determined that an operator will typically take the handswitch from CLOSE, through the center AUTO position to the OPEN position before allowing it to spring-return back to the AUTO position. The typical operation of the switch therefore masked the modeling deficiency of the valve opening when the handswitch was taken from CLOSE to AUTO.

Inspector review of the three issues described in this unresolved item resulted in the determination that, in one case, no actual simulator fidelity problem existed. In the other two cases, the simulator did not match reference unit design but, as explained, no licensee performance deficiency existed. In the cases where fidelity was inaccurate, timely and effective corrective actions have been taken. For the reasons given above, the inspector determined no findings related to simulator fidelity existed, and therefore, URI 05000336/2005301-01 is closed.

.5 (Closed) URI 05000423/2005008-02, Millstone Unit 3 Simulator Demonstration of Expected Plant Response to Operator Input and to Normal Conditions (Reactor Heat-up Operations) Using Only Operator Actions Normal to the Reference Unit

The inspector reviewed a potential Unit 3 simulator fidelity issue and addressed it as a closed issue. It was related to the method used to establish simulated hot standby plant conditions for simulator normal evolution testing. This unresolved item had been documented in Inspection Report 05000423/2005008 (April 2005).

URI 05000423/2005008-02 described a potential failure to maintain Unit 3 simulator fidelity when establishing hot standby conditions for simulator normal evolution testing. Millstone Nuclear Station Unit 3 reference plant does not have any means for changing a reactor coolant pump's frictional heat output characteristics; it is established by design based, in part, on the amount of work being required and performed by pump operation. The reference plant reactor coolant pump frictional heat output is predetermined by design and cannot be adjusted during reactor operations under any conditions. Other factors such as time and rate of heat addition on the temperature of vessel head, flanges, and nozzles as well as thermal-hydraulic operating characteristics that influence reactor heat-up cannot be artificially changed during the heat-up from cold shutdown conditions in the reference reactor plant.

Inspectors previously found that the simulation facility licensee had conducted required normal evolution performance testing on the Unit 3 plant-referenced simulator using mathematical model changes instead of using only operator actions normal to the reference unit to artificially manipulate the effect and response of reactor coolant pump frictional heat output (e.g., allowing unrealistic reactor vessel temperature and pressure responses during reactor coolant pump operations when this capability is not in the reference plant and is not part of the design data for the reactor coolant system).

Incorrect generation of simulator initial condition sets, and the use of artificial means to effect reactor coolant pump frictional heat changes, could impact operator actions on the reference plant as a result of licensed operators and senior operators being negatively trained on initial condition sets that were derived from an incorrect representation of the reactor core and reactor coolant system used to inappropriately demonstrate nuclear and thermal hydraulic characteristics and subsequently leading to misunderstandings of the expected reference plant response.

Dominion entered this issue into their simulator corrective action process under DR #2005-3-0016 and ran a comparison of resulting conditions from a 150-degree Fahrenheit RPS heatup in “normal time” versus “fast time.” Some differences were noted in the resulting final conditions. The “fast time” heatup yielded a greater response in pressurizer parameters. However, no abnormal alarms were received and the operator was able to follow plant procedures. Stabilization of the simulated plant after reaching the desired conditions restored plant parameters to desired values such that the conditions saved for further testing and operator training matched expected plant conditions.

Although no fidelity issue was identified between final conditions established using “fast time” as compared to “normal time,” the facility determined that there was not a clear benefit to using the feature during required testing or operator training. Condition Report CR-05-12389 was written to initiate a change to the Nuclear Simulator Engineering Manual to administratively restrict the use of the simulator fast-time heatup function.

Inspector discussions with Dominion, and review of their actions taken, resulted in the inspector determining that tests performed by Dominion demonstrated simulator fidelity was not adversely affected in this case. However, ANSI/ANS-3.5-1998 Section 3.1.1 provides guidance that the simulator shall support the conduct of reference unit evolutions, using only operator action normal to the reference unit, including reactor startups and shutdowns, *in a continuous manner without any mathematical model or initial condition changes*. In light of this guidance, the plant staff actions to prohibit future use of non-real-time features such as fast heatup in testing or development of operating conditions was appropriate.

Inspector review of the issue described in this unresolved item resulted in the conclusion that no simulator fidelity problem existed. Therefore, URI 05000423/2005008-02 is closed.

.6 (Discussed) URI 05000336,423/2005008-01, Acceptability or Suitability of Millstone Unit 2 and Unit 3 Simulator Scenario-Based-Tests (SBTs) For Meeting ANSI/ANS-3.5-1998 Performance Testing Criteria

The inspector updated actions taken in regard to the open unresolved issue on simulator scenario-based testing (SBT) methodology. This unresolved item had been documented in Inspection Report 05000336 and 05000423/2005008 (April 2005). The NRC staff has been in discussions over this issue throughout 2005 with industry through the NEI and the Mid-Atlantic Nuclear Training Organization (MANTG). In August 2005, MANTG hosted a training conference at the Millstone Station where the Millstone training staff put on a demonstration of a proposed methodology for documentation of scenario-based tests. The facility is awaiting outcome of industry / NRC meetings on this topic and has not made any changes to their SBT methodology. This unresolved issue will remain open, pending final decision reached by the Operator Licensing Program Office.

.7 (Discussed) URI 05000336/2005301-02, Potential Gap in Technical Specification Requirements for Nuclear Instrument Operability

The inspector updated actions taken in regard to the open unresolved issue on technical specification requirements for nuclear instrument operability. This unresolved item had been documented in Inspection Report 05000336/2005301 (June 2005).

A potential issue was noted with the TSs during development of the written examination as follows:
- Wide Range Nuclear Instruments (WRNIs) are required operable in Modes 3, 4, 5
- Power Range Nuclear Instruments (PRNIs) are required operable in Modes 1, 2
- Mode 2 is defined as Keff > 0.99
- Power Range Nuclear Instruments come on scale at 0.1 percent power

It thus appears possible to be in compliance with Technical Specifications with the plant in Mode 2, with power still below the range of the PRNIs, but with no requirement for operable WRNIs.

Dominion initiated Condition Report CR-05-03176 to address the issue. Millstone engineering evaluated the situation and concluded that no problem exists since WRNIs are not credited to mitigate any existing FSAR Chapter 14 design basis event and no auto or manual action is credited based on this indication.

The NRC staff is currently evaluating this issue further. The unresolved issue will remain open pending outcome of this evaluation.

4OA6 Meetings, Including Exit

Emergency Preparedness Exit Meeting Summary

On October 7, 2005, the inspector presented the inspection results to Mr. J. Alan Price and other Dominion staff. The inspector confirmed that no proprietary information was provided or examined during the inspection.

Occupational Radiation Safety Exit Meeting Summary

On October 20, 2005, the inspector presented the inspection results to Mr. J. Alan Price and other members of Dominion management. Dominion acknowledged the conclusions presented.

Inservice Inspection Activities Exit Meeting Summary

On October 28, 2005, the inspector presented the inspection results to Mr. Skip Jordan and other members of Dominion management. Dominion acknowledged the conclusions presented.

10 CFR 50.59 and Permanent Plant Modifications Report Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Alan Price and other members of Dominion management on November 18, 2005. Dominion management stated that none of the information reviewed by the inspectors was considered proprietary.

Integrated Report Exit Meeting Summary

On January 19, 2006, the resident inspectors presented the overall inspection results to Mr. J. Alan Price and other members of his staff, who acknowledged the findings. The inspectors asked Dominion whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Bajumpa, Engineering
B. Barron, Engineering
B. Bartron, Licensing
P. Bandaru, Engineering
W. Bellows, Engineering
B. Burnham, Operations
P. Calandra, ALARA Coordinator
M. Chalbert, Engineering
S. Chang, Software Systems Engineer Specialist (Simulator)
A. Chyra, Engineering
G. Closius, Licensing Engineer
K. Connor, Reactor Engineering
M. Cote, Supervisor, Unit 2 Licensed Operator Requalification Training
T. Dagata, Radiation Protection Technician
D. DelCore, Supervisor, Health Physics Operations
D. Dodson, Supervisor, Station Nuclear Licensing
J. Follett, I&C Instructor
J. Fuller, Senior EP Instructor
R. Fuller, ISI Level III
P. Grossman, Manager-Nuclear Engineering
J. Hawxhurst, Nuclear Quality Specialist
G. Huang, Software Systems Engineer Specialist (Simulator)
S. Heard, Manager-Nuclear Oversight
T. Horner, Operations Training Supervisor
S. Jackson, Simulator Systems Analyst (Test Operator)
N. Jaycox, Engineering
A. Jordan, Director, Nuclear Station Operations & Maintenance
J. Jozwick, Radiation Protection Technician
E. Laine, Manager, Radiological Protection & Chemistry
J. Langan, Manager- Nuclear Site Engineering
L. Loomis, Operations
P. Luckey, Manager, EP
D. MacNeill, Operations
P. Malzahn, Operations Instructor
F. Matovic, Radiation Protection Technician
R. MacManus, Director, Nuclear Engineering
M. Nappi, Supervisor, Radiation Protection - ALARA
F. Perkins, System Engineer
A. Price, Site Vice President - Millstone
D. Regan, Supervisor, Radiation Protection Support (ALARA)
D. Robinson, Information Technology Manager (Simulator)
C. Ryan, Operations Instructor
S. Scace, Director, Nuclear Station Safety and Licensing
M. Stark, SG Project Manager
S. Stricker, Design Manager

C. Tan, Software Systems Engineer Specialist (Simulator)
S. Turowski, Supervisor-HP Technical Services
R. Zeiber, Engineering

NRC Personnel

J. C. Benjamin, Resident Inspector, Division of Reactor Projects (DRP)
T. F. Burns, Reactor Inspector, Division of Reactor Safety (DRS)
J. M. D'Antonio, Operations Engineer, DRS
Z. B. Fu, Reactor Inspector, DRS
D. C. Johnson, Reactor Inspector, DRS
G. X. Johnson, Reactor Inspector, DRS
S. R. Kennedy, Resident Inspector, DRP
K. S. Kolaczyk, Senior Resident Inspector, Ginna, DRP
N. T. McNamara, Emergency Preparedness Inspector, DRS
M. C. Modes, Senior Reactor Inspector, DRS
T. A. Moslak, Health Physicist, DRS
A. C. Patel, Reactor Inspector, DRS
P. A. Presby, Operations Engineer, DRS
R. J. Prince, Health Physicist, DRS
S. M. Schneider, Senior Resident Inspector, DRP

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000336,423/2005005-01	FIN	Ineffective Corrective Actions to Prevent SERO Qualification Lapses (1EP5)
05000423/2005005-02	NCV	Failure to properly assess and correct known water leakage into the "B" EDG rocker arm lube oil system (4OA5.2)

Closed

05000423/2005003-04	URI	Failure to Formally Disposition Leakage into the "B" EDG Rocker Arm Lube Oil System (4OA5.2)
05000336/2005003-03	URI	FSAR statements do not support CEDM design attribute (4OA5.3)
05000336/2005301-01	URI	Simulator Deficiencies Identified During NRC Exam Process (4OA5.4)

05000423/2005008-02	URI	Millstone Unit 3 Simulator Demonstration of Expected Plant Response to Operator Input and to Normal Conditions (Reactor Heat-up Operations) Using Only Operator Actions Normal to the Reference Unit (4OA5.5)

Discussed

05000336,423/2005008-01	URI	Acceptability or Suitability of Millstone Unit 2 and Unit 3 Simulator Scenario-Based-Tests (SBTs) For Meeting ANSI/ANS-3.5-1998 Performance Testing Criteria (4OA5.6)
05000336/2005301-02	URI	Potential Gap in Technical Specification Requirements for Nuclear Instrument Operability (4OA5.7)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

CR-05-13055, Requirements for the Completion of Cold Weather Preps Were Not Met
CR-03-00142, Cold Weather Protection Surveillance 3670.5 Is Not Being Performed in a Timely Manner
COP 200.13, Revision 000-04, Cold Weather Preparations
COP 200.13-003, Revision 000-01, Unit 3 Cold Weather Preparation Checklist

Section 1R02: Evaluations of Changes, Tests, or Experiments

10 CFR 50.59 Safety Evaluations

S2-EV-03-0006, Operability Determination Pzr Level Indication is Offset From Actual Pzr Level
S2-EV-03-0007, (MP2-043-02), Operability Determination - Operation with Three Charging Pumps Challenges Relief Valves and Entire System, Rev. 0
S2-EV-03-0011, Start of Unit 2 Charging Pumps, After Pulse Damper Installation, Rev. 0
S2-EV-04-001, Replacement of MP2 Spent Fuel Pool Cask Crane Hoisting Equipment and Control System, Rev. 0
S2-EV-04-002, Procedure Changes for Compliance with 10CFR50.68(b) - FSARCR 04-MP2-013, Rev. 0
S2-EV-05-002, Reload Design for Millstone Unit 2 Cycle 17, May 4, 2005
S3-EV-03-0001, SPROCOPS 03-2-002, Rev. 0
S3-EV-04-0001, DCR M3-002
S3-EV-04-0002, Extension of Fuel Rod Burnup Limit form 60,000 to 71,000 MWD/MTU, Rev. 0
S3-EV-05-0001, Reload Design for Millstone Unit 3 Cycle 11/Mode 5&6, Rev. 0
S3-EV-05-0002, Reload Design for Millstone Unit 3 Cycle 11, Rev. 0

10 CFR 50.59 Screened-out Evaluations

DCR M2-00018, HPSI Pump Bearing Modifications, Rev. 0, June 7, 2001
DM2-00-0320-02, Eliminate Diesel Cooling Check Valve 13A, February 16, 2004
DM3-00-008-04, Replacement of RCP Seal Leakoff Valves, October 3, 2003
DM3-00-0191-03, Hot Short Modification To Valve 3CHS*MV8106, Rev. 0
DM3-00-0467-01, Vendor Technical Manual Instructions For Replacement Relief Valves, Rev. 0
EOP 2532, Loss of Coolant Accident, Rev. 24, February 11, 2004
EOP 2540 C1, Functional Recovery of RCS Inventory Control, Rev. 3, October 24, 2005
EOP 35 ECA.0.0, Loss Of All AC Power, Rev. 17
EOP 35 ECA-0.3, Loss Of All AC Power- Recovery With The SBO Diesel, Rev. 11
FSARCR 02-MP2-15, Partial Implementation of Alternate Source Term, Sept. 29, 2004
M2-00016, Charging Pump P18A/P18B Oil/Water Separator
M2-00029, Heater Drain Tank (TK 56) Relief Valves 2-HD-605 and 2-HD-606
M3-03001, Caldon Leading Edge Flow Check Plus Measurement System Install, Rev. 0
MMOD DM3-00-0205-03, Hot Short Modification to Pressurizer Htr Backup Group A, Sept. 26, 2003
MMOD DM3-02-0231-01, Addition of Strainer Support for Screen Wash System, Rev. 0
MMOD DM3-01-0424-01, –16 Monitoring System, Rev. 0
MMOD DM3-00-0231-01, Addition of Strainer to Screen Wash System, Rev. 0
OP 2326A, Service Water Systems, Rev 022-2
TMOD 2-03-004, Temporarily remove the capability to supply A diesel generator cooling water from B service water header, May 30, 2003
TMOD 2-03-006, Charging Pump P18A/B/C Drain Line, August 21, 2003

Additional documents reviewed are listed in Section 4OA5 of this Attachment

Section 1R04: Equipment Alignment

OP-2346A-002, Revision 019-03, “A” DG Pre-start Checklist
OP-2610CO-001, Revision 000-00, Auxiliary Feedwater Flowpath Lineup Verification
OP-3309-003, Revision 005-04, Quench Spray System (Train B) - Valve Lineup
SP-2612D-001, Revision 030-05, Service Water Flow Path Verification, Facility 2
SP-3622.4-001, Revision 005-02, Auxiliary Feedwater System Lineup (MDAFW Train A)
Drawing #25203-26018, Diesel Generator Starting Air
Drawing #25203-26008, Sheet 2, PID Service Water
Drawing #25203-26005, Sheet 3, PID Condensate and Auxiliary Feedwater Systems

Section 1R05: Fire Protection

Millstone Unit 2 Fire Hazard Analysis
SFP-10, Revision 003-02, Fire Prevention Inspections
MP2 IPEEE
Technical Requirement Manual, Section 3/4.7-25, Table 7-1, Barrier Fire Watch Matrix, August 8, 2002
Surveillance on Fire Dampers 2-HV-251 and 2-HV-252
Fire Protection System Description, Figures 3 and 6
Millstone Unit 3 Fire Hazard Analysis Plan Drawing
Millstone 3 Fire Protection Evaluation Report, Revision 17

MS3 Technical Requirements Manual, Section 3/4.7.12, Fire Suppression Systems
MS3 Fire Hazard Analysis #14
MS3 Fire Hazard Analysis #22
MS3 Fire Hazard Analysis #41
MS3 Fire Hazard Analysis #43
MS3 Fire Hazard Analysis #92

Section 1R06: Flood Protection Measures

Calculation W2-517-1020-RE, Revision 0, MP2, Internal Flooding Evaluation

Section 1R08: Inservice Inspection Activities

Procedures

MP-LP-4, Revision 04, Liquid Penetrant Examination Procedure
MP-MT-1, Revision 03, Magnetic Particle Examination Procedure
MP-PDI-UT-1, Revision 02, PDI Generic Procedure For The Ultrasonic Examination of Ferritic Pipe Welds
MP-PDI-UT-1-001, Revision 1, PDI Generic Procedure PDI-UT-1, Table 1
MP-PDI-UT-1-002, Revision 1, PDI Generic Procedure PDI-UT-1, Table 2
MP-PDI-UT-2, Revision 3, PDI Generic Procedure For The Ultrasonic Examination of Austenitic Pipe Welds
MP-PDI-UT-2-002, Revision 1, PDI-UT-2, Table 1
MP-PDI-GEN-1, Revision 2, General Requirements For The Implementation of PDI Ultrasonic Procedures
MP-24-BACC-FAP01, Revision 1, Boric Acid Corrosion Control Outage Inspections
MP-24-BACC-FAP02, Revision 0, Boric Acid Corrosion Control Initial Refueling and Forced Outage Inspections
MP-20-OM-GDL01, Revision 2, Forced Outage Management Guideline
DNAP-1004, Revision 2 & Revision 3, Boric Acid Corrosion Control Program
MP-24-BACC-SAP01, Revision 0, Boric Acid Corrosion Control On-Line Examinations
VPROC ISI00-001, Revision 0, Radiography Examination Procedure for ASME (Code) RT010
MP-24-BACC-FAP01, Revision 1, Boric Acid Corrosion Control Outage Inspections
MP-24-BACC-PRG, Revision 0, Boric Acid Corrosion Control Program
VPROC ENG05-3-019, Revision 000, Millstone Power Station Vendor Procedure, “Generic Procedure for Ultrasonic Examination of Dissimilar Metal Nozzle to Safe-End Welds and Dissimilar Metal Piping Welds Using the IntraSpect Automated Imaging System (WDI-STD-119A Revision 1).”

Design Change Notices

DM3-00-0324-04, Replace Portion of Line 3-DSR-010-14-4 with Chrome Moly Material
DM3-00-0322-04, Replace Portions of Lines 3-HDL-016-5-4, 3-HDL-016-29-4 and 3-HDL-016-53-4 with Chrome Moly Material

Drawings

25212-20979, Revision 4, Main Aux Feedwater Loop A Outside Containment
25212-20977, Revision 3, Main Steam System, Unit 3, Loop C, Zone 063

Inspection Reports

310-02-004, PT Feedwater Valve/Pipe, 16 inch, FW 70, Carbon to Stainless, Class 2
310-02-006, PT Feedwater Pipe/Redu, 18 inch, FW 72, Carbon to Stainless, Class 2
310-03-033, MT Main Steam Pipe/Pipe, 8 inch, FW 6, Carbon to Carbon, Class 2
310-01-046, UT Main Steam Pipe/Pipe, 8 inch, FW 6, Carbon to Carbon, Class 2
M3-04-17078, UT Pressurizer Nozzle 03X5644-E-T, A600

Miscellaneous

Personnel Qualification and Certification Records for six NDT examiners
WTS 508, Revision H, Weld Procedure Specification GTAW/SMAW, Material P5A to P5A
WTS 103, Revision 8, Weld Procedure Specification GTAW/SMAW, Material P1 to P1
WTS 130, Revision 0, Weld Procedure Specification GTAW/SMAW, Material P1 to P1

Section 1R11: Licensed Operator Requalification Program

Requalification Activities Review by Resident Staff

Simulator Exercise Guide S05601 MB-01388, Diagnostics
Simulator Exercise Guide S05601L, Revision 0, Loss of Vital Bus

Licensed Operator Requalification Activities Review by Regional Specialists

NSEM-3.02, "Control of Simulator Design Documentation," Revision 10
List of Open Simulator DRs (Unit 3)
List of Simulator Condition Reports (10/2004-10/2005, Unit 3)
List of Closed Simulator DRs (2004-2005, Unit 3)
DR 2005-3-0016, "Benchmark Plant Heatup and Xe Using Fast-Time" (Unit 3)
DR 2005-3-0027, "Evaluate Reactor Trip Event of April 17, 2005 on MP3 Simulator" (Unit 3)
DR 2005-3-0028, "Main Steam Safety Valve Blowdown Setpoint" (Unit 3)
DR 2005-3-0035, "PZR Safeties Indicate Open When the PZR PORV's Open" (Unit 3)
DR 2005-3-0036, "PZR Safeties: Setpoint and Blowdown; Check and Modify" (Unit 3)
DR 2005-3-0037, "PZR PORVs Indication During Rapid Cycle" (Unit 3)
DR 2005-3-0038, "PZR Spray Valves/CTMT IAS Decay" (Unit 3)
DR 2005-3-0039, "CHS-FI917 / SIH-FI922/918 Flow Meter Performance" (Unit 3)
DR 2005-3-0040, "New MALF - CHS Leak Similar to 4/17/05 Event" (Unit 3)
DR 2005-3-0041, "CHS System Flow - Analyze and Modify" (Unit 3)
CR-05-05571, "NRC Inspection Team Identified Unresolved Items Related to Simulator Fidelity" (Unit 3)
CR-05-13556, “Extent of Condition Needed For MP2 Simulator Discrepancies” (Unit 2)
CR-05-03167, "NRC Written Exam Question Challenge Raises Tech Spec Concern" (Unit 2)
DR 2005-2-0013, "Depressurizing CTMT" (Unit 2)
DR 2005-2-0021, "CH501 Operation" (Unit 2)

DR 2005-2-0023, "PMW Controller" (Unit 2)

Section 1R12: Maintenance Effectiveness

CR-05-12449, “A” ECCS System Declared Inoperable Due To Maintenance Performed On The “A” Charging Pump
CR-05-11694, “B” EDG Voltage Control Would Not Function In Automatic Or Manual
CR-05-11714, During The Performance Of The “B” EDG Surveillance, The EDG Exceeded The Volts/Hz Ratio For 4 Minutes
CR-05-12544, Unplanned LCO, “B” SWP Strainer Would Not Blow Down Automatically or Manually
CR-05-08722, “B” Service Water Strainer Failed to Backwash after 4 Hours
CR-05-08769, Multiple Septum Strainer Elements in 3SWP*STR1B Found Degraded
CR-05-12594, Septums on M33SWP*STR1B, Poor Quality of Material Received from Vendor
CR-05-12756, Unplanned LCO, Orange Magnet 21, While Performing SP 3622.8, AFW Valve Op Test, 3FWA*HV32B Stroked Too Quickly, Outside of Its ISI Min/Max Range
10 CFR 50.65, Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
NUMARC 93-01, Revision 2, NEI Industry Guideline For Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
Millstone Unit 2 Maintenance Rule Scoping Documents
Millstone Unit 3 Maintenance Rule (a)(1) Evaluation for the Service Water System
Maintenance Rule Functional Failure Evaluation for CR-05-12449
Maintenance Rule Functional Failure Evaluation for CR-05-11694 and CR-05-11714

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Major Equipment Schedule - WW0540
Work Schedule for October 12, 2005
Risk Assessment for Maintenance on #1 SG ADV, TDAFW Pumps Switchyard Work (WW0541)
Drawing PI&D 12179-EM-124A, Revision 20, Extraction Steam and TG Gland Seal and Exhaust
OP-3260A-004, Revision 013-01, Shutdown Safety Assessment Checklist
CR-05-12974, Temperature In AFW Piping To “A” Steam Generator Is Increasing
MP-20-WM-FAP02.1, Revision 009, Conduct of On-Line Maintenance
NUMARC 93-01, Revision 2, Nuclear Energy Institute for Monitoring the Effectiveness of Maintenance At Nuclear Power Plants

Section 1R14: Operator Performance During Non-Routine Evolutions and Events

OP-3216, Revision 008-05, Reactor Coolant System Drain (IPTE)
TS 3.7.8, Control Room Envelope Pressurization System
DNAP-1004, Revision 2, Boric Acid Corrosion Control (BACC) Program
MP-24-BACC-SAP01, Revision 000, Boric Acid Corrosion Control On-Line Examinations
MP-24-BACC-FAP01-002, Revision 000-01, Millstone Unit 3 Refueling Outage Boric Acid Corrosion Inspections
AOP 3555, Revision 016-01, Reactor Coolant System Leak
EOP 35 E-O, Revision 022, Reactor Trip or Safety Injection

EOP 35 ES-01, Revision 021, Reactor Trip Response
AOP 3550, Revision 006, Turbine/Generator Trip
AOP 3575, Revision 011, Rapid Downpower
Event Review Team Report
NRC Event Notification Forms
Startup Schedules
DNAP-3003, Dominion Operational Decision Making on Backseating RCS Loop Stop Valve
Control Room Logs
Plant Computer Readouts
Operator Just-In-Time Training on December 1, 2005, Events
CR-05-13342, Reactor Coolant System Leakage to the CDTT (from 3RCS*MN8002B) - Entry Into AOP 3555 and AOP 3575 to Reduce Plant Power
CR-05-13354, Turbine High Vibrations During Downpower Required Tripping the Turbine
CR-05-13356, Millstone Unit 3 Reactor Trip
CR-05-11690, During Investigation into Ability to Vacuum Fill Loops it was Determined that the Drain Path for the Isolated Loops was Isolated

Section 1R15: Operability Evaluations

OD MP2-014-05, Potential for Significant Air Entrainment in the Suction Line Leading from the RWST to the ECCS/Containment Spray Pumps
OD MP3-019-05, Westinghouse Letter NEU-05-30 identified Errors in Millstone Unit 3 Loss of Coolant Accident Analysis
OD M3-02-01641, RHS Pump A Suction Header Relief (RV8708A)
OD M3-02-01643, RHS Pump B Suction Header Relief (RV8708B)
OD MP3-022-05, Stroke Time of Valve 3FWA*HV32B Less Than Minimum Allowed Time of SP-3622.8-9
OD MP3-021-05, Service Water Leak on 3CCI*E1A
SP-3712D-001, Revision 004-05, RHR Pump Suction Relief Valve Surveillance Data Sheet/Inspection Plan
TS 3.4.93., Overpressure Protection Systems
CR-05-11234, Potential for Significant Air Entrainment in RWST ECCS Suction Lines
CR-05-11563, Westinghouse Letter NEU-05-30 Identified Errors in the MP-3 LOCA Mass and Energy Calculations for Containment Analyses
CR-05-12756, Unplanned LCO, Orange magnet 21, While Performed SP-3622.8, AFW Valve OP Test, 3FWA*HV32B Stroked Too Quickly, Outside of its ISI Min/Max Range
CR-05-12217, Received MB 4-7 Alarm, In and Cleared for Overtemp Delta T Runback Rod Block
CR-05-12492, The “A” Safety Injection Pump Cooling Heat Exchanger (CCI*E1A) Had A Minor Service Water Leak
CR-05-13096, Heat Trace for #2 ADV Drain Valve 2-MS-513 is not Working. Line Found Plugged with Ice
CR-05-13163, Charging Pump A Lube Oil Pressure LO Annunciator on C02/3 Alarmed Repeatedly
Westinghouse Letter NEU-05-30

ARP 2590B-047, Rev. 000-01, CHG Pump A Lube Oil PRES LO

Section 1R16: Operator Work-Arounds

MP-14-OPS-GDL600, Revision 003-00, Plant Status and Configuration Control

Section 1R17: Permanent Plant Modifications

Plant Modifications

AR 03001062/REA 0304846, Hot Short Modification to Pzr Htr Backup Group A, Sept. 26, 2003
DM2-00-0003-03, AFW Pump Motor P9AM Cooling Lines, Rev. A
DM2-00-0004-04, Replacement of Containment Air Radiation Monitors, Sept. 8, 2004
DM2-00-0320-02, Eliminate Diesel Cooling Check Valve 13A, Feb. 26, 2004
DM2-00-0321-02, Eliminate Diesel Cooling Check Valve 13B, Feb. 26, 2004
DM2-00-1707-98, P9A&B AFW Pump Motor End Bell Repair and Cooling Line Removal, Rev. 0
DM3-00-0008-04, Replacement of RCP Seal Leakoff Valves, October 3, 2003
DM3-00-0191-03, Hot Short Modification To Valve 3CHS*MV8106
DM3-03-0467-01, New Vendor Technical Manual Instructions for replacement Relief Valve 3RHS*RV8708A
EWR M3-00069, MP3 Primary to Secondary Leak Detector (N–16 Monitoring System), Jan. 24, 2002
EWR M3-96302, Addition of Strainers to Screen Wash System, Rev. 1
M2-00016, Charging Pump P18A/P18B Oil/Water Separators
M2-00029, Heater Drain Tank (TK 56) Relief Valves 2-HD-605 and 2-HD-606
M2-00030, Adding Disconnect Switches to App. R MOV's 2-MS-65A, 2-MS-65B, & 2-MS-202
M2-00032, Replacement of RM-4262, SG Blowdown Sample Radiation Monitor, 5/8/01
M2-04003, Replacement of Containment Air Radiation Monitors, Sept. 10, 2004

Additional documents reviewed are listed in Section 4OA5 of this Attachment

Section 1R19: Post Maintenance Testing

MP 3720CP, 24 Month EDG Mechanical Maintenance PM for "A" Diesel Generator
AWO M3-03-05325, Emergency Diesel Generator A
AWO M3-05-17474, Jacket Water Cooler
AWO M3-05-17475, Engine Air Cooler Water Heat Exchanger
AWO M3-04-14650, Static Test, Complete PM and Manual Valve Stroke of 3 RHS - MV8701A, MV8701B, MV8701C and MV8716A
AWO 04 13022, Static Test, Full PM, Re-Pack Valve and Test, M33CHS MV8116, Stroke Testing
AWO-M3-05-13862, Troubleshoot Operation of 3HVC*SOV74A and 3HVC*PCV68A
AWO-M3-05-13890, Disassemble Valve, Overhaul, and Reassemble Air Storage Tank Outlet Pressure Reducer, 3HVC*PCV68A
AWO M2-05-10549, Troubleshoot CEDS Trouble Alarm due to ROJ #18 Abnormal Voltage on the Upper Gripper
AWO M2-05-09591, Replace RWST Level Indicator LI-3004
AWO M2-05-08956, Adjust Packing on "B" RBCCW HX Outlet Temperature Control Valve
AWO M2-05-05878, Vital AC SWGR Room Cooling Coil SW Outlet Flow Indicator
AWO M2-04-11417, "B" Shutdown Cooling Heat Exchanger Outlet Stop Valve Solenoid
SP-2611D, Revision 02-00, RBCCW Valve Stroke And Timing IST, Facility 2

SP-2403ED, Revision 000-02, RWST Channel "D" Level Calibration
SP-2612C, Revision 009-00, Service Water Flow Path Verification and Valve Tests, Facility 1
CR-05-10605, Failed surveillance - 3614F.3-1 Control Room Pressurization Test
CR-05-13559, Flow Indicator Switch 3SWP-FIS41B is Reading High
MP-24-IST-REF00, Revision 00, IST Program Requirements Reference Manual
MP-20-WP-GDL40, Revision 005, Pre and Post Maintenance
Tag Clearance 2R16-2315D12-0003

Section 1R20: Refueling and Other Outage Activities

AWO M3 02 01641, RHS Pump A Suction Header Relief (RV8708A)
AWO M3 02 01643, RHS Pump B Suction Header Relief (RV8708B)
AWO M3 05 13862, Troubleshooting Operation of 3HVC*SOV74A and 3HVC*PCV68A
AWO M3 05 13890, Disassemble Valve, Overhaul, and Reassemble Air Storage Tank Outlet Pressure Reducer, 3HVC*PCV68A
AWO M3 05 08927, Snubber 3RCS-1 PSS P0055, Mechanical Snubber Functional Data Sheet
AWO M3 05 08926, Snubber 3RCS-1 PSS P0039, Mechanical Snubber Functional Data Sheet
AWO M3 04 14650, Static Test, Complete PM and Manual Stroke of 3 RHS - MV8701A, MV8701B, MV8701C, and MV8716A. Set Torque Switch and Stroke Times
AWO M3 04 13022, Static Test, Full PM, Re-Pack Valve and Test, M33CHS MV8116
AWO M3 04 00767, Pressurizer Level Protection Set 1 Transmitter Calibration - 3RCS LT459
AWO M3 04 00770, Containment Sump Wide Range Level Transmitter Calibration, 3RSS LIT22A
AWO M3 04 04767, Pressurizer Pressure Narrow Range Level Transmitter Calibration, RCS PT455
AWO M3 05 09672, Static Test, Complete PM, Packing and Manual Valve Stroke, M33CHS MV8512B, Charging Pump Relief Valve Stroke Time
AWO M3 02 13608, MCC Starter Instantaneous Trip Test, 3 CHS MV8109C, Reactor Coolant Pump Seal Water Isolation Valve
AWO M3 04 09293, Inservice RCP Flywheel Inspection Surveillance, 3RCS*P1A
AWO M3 04 06626, Static Test, Full PM, Re-Pack Valve and Test, 3SIH*MV8801B, High
CR 05-10605, Failed Control Room Pressurization Test
CR-05-11526, Reactor Coolant Pumps 3RCS*P1B and 3RCS*P1C Main Flange Bolt Stretch
CR-05-11536, Reactor Coolant Pumps 3RCS*P1B and 3RCS*P1C need to have the main Flange Bolts Checked and Re-stretched
CR-05-11559, Reactor Coolant Pumps 3RCS*P1B and 3RCS*P1C Main Flange Bolt Stretches are Slightly out of the Specified Range
CR-05-10659, FME Removed from 5A Feedwater Heater
CR-05-10808, Missing Nuts for Division Plant for Feedwater Heater
CR-05-11417, FME Found in "A" Feedline Drain Valves
CR-05-10677, Missing Lock Washer cavity Pit Seal Support Leg
CR-05-11915, 3RCS*P1C Auto Trip
CR-05-12058, Low Power Physics Testing Terminated due to Source Range NI Failure
CR-05-10717, Potential Problem Latching Fuel in Core
CR-05-10790, As Found Condition HVU-FN2B (Control Rod Drive Cooling Fan - Missing Bolts)
DCN DM3-00-0422-05, MP3 Pressurizer Spray Line Nozzle Weld Overlay
DNAP-1004, Revision 2, Boric Acid Corrosion Control (BACC) Program
ENG-EN 210046, Revision 001-001, Cycle 17 Low Power Physics Testing
ENG-EN 31028, Revision 002-003, Dilution to Criticality

FME Log for Unit 3 “C” Steam Generator, J-Tube Repair, 10/13/2005 Pressure Boron Injection to Cold Legs
Millstone Unit 3, Updated Final Safety Analysis Report, Chapter 14 Analysis (Dropped Fuel Rod)
OP 3201, Revision 020-009, Plant Heatup
OP 3201-001, Revision 007-007, Technical Specification Review Prior to Mode 4
OP 3201-002, Revision 007-010, Technical Specification Review Prior to Mode 3
OP 3202, Revision 018-001, Reactor Startup
OP 3203, Revision 018-002, Plant Startup
OP 3207, Revision 013-003, Reactor Shutdown
OP 3208, Revision 020-016, Plant Cooldown
OP 3209, Revision 008-002, Shutdown Margin
OP 3209A, Revision 007-002, Reactivity Estimated Critical Position Dilution
OP 3209B-002, Revision 008-009, Shutdown Margin Modes 3 and 4
OP 3216, Revision 008-005, RCS Drain
OP 3217, Revision 006-001, RCS System Fill
OP 3218, Revision 007-004, RCS Fill and Sweep and Vent
OP 3250.01, Revision 002-001, Individual Loop Drain and Refill
OP 3250.10A, Revision 002-02, Removing RHR from Service for LLRT or Maintenance
OP 3260A-003, Revision 003-003, Conduct of Outage
OP 3260B, Revision 003-003, Equipment Control
OP 3260A-004, Revision 013-001, Shutdown Safety Assessment Checklist
OP 3303A, Revision 009-010, Spent Fuel Bridge
OP 3303D, Revision 011-004, Fuel Handling Tools
OP 3303E, Revision 006-004, Refueling Preparation
OP 3309, Revision 001-003, Quench Spray System (Train B) - Valve Lineup
SP 3636A.16-001, Train A Loss of Power Test
SP 3610A.3, RHR System Vent and Valve Lineup Verification
SP 3610A.3-002, RHR System Valve Lineup Verification - Train A and Common Header, 10/24/2005
SP 3610A.3-004, RHR System Valve Lineup Verification - Train B, 10/25/2005
SP 3622.4, Revision 001, Auxiliary Feedwater System Lineup (MDAFW Train A)
SP-3601G.2-001, Revision 005, RCS Heatup and Cooldown Rate
SP-3601G.2-002, Revision 008-01, Pressurizer Heatup and Cooldown Rate and Surge Line Temperature Monitoring

Section 1R22: Surveillance Testing

Main. Form 3762WD-01, Setting and Testing Relief Valve Data Sheet
AWO M3-04-16934, 2CCI RV36A, PM/IST Safety/Relief Valve
SP-2610E, Revision 009-08, MSIV Closure and Main Steam Valve Operational Readiness Testing
SP-2610E-005, Revision 002-04, No. 1 Steam Generator Atmospheric Dump
SP-2602A, Revision 005-03, Reactor Coolant Leakage
SP-2401D, Revision 012-09, RPS Matrix Logic and Trip Path Relay Test
SP-2610AO, Revision 000-00, “A” AFW Pump and Recirc Check Valve IST, Facility 1
SP-2403BA, Revision 002-14, Facility 1 ESAS UV, RSST and Sequencer Calibration and Functional Test
SP-3646A.15, Revision 016, Train “A” Loss of Power Test (IPTE)

SP-3636A.15-001, Revision 015-01, Train "A" Loss of Power Test
SP-3610A.3, Revision 006-05, RHR System Vent and Valve Lineup Verification
SP-3610A.3-002, Revision 006, RHR System Valve Lineup Verification - Train "A" and Common Header
SP-3610A.3-004, Revision 000, RHR System Valve Lineup Verification - Train "B"
SP-3622.3, Revision 016-19, TDAFW Cold Start Surveillance
SP-3442D01, Pressurizer Level Protection Set 1 Transmitter Calibration
SP-3447B01, Containment Sump Wide Range Level Transmitter Calibration
SP-3442C10, Pressurizer Pressure Narrow Range Channel 1 Transmitter Calibration
SP-311008, Revision 002-06, Low Power Physics Testing (IPTE)
TS 3/4.8.1.1.2g, A. C. Sources
OP-3218, Revision 007-04, Reactor Coolant System Sweep and Vent
OP-3250.10A, Revision 002-02, Removing RHR from Service for LLRT or Maintenance
OPS Form-2618G-1, Revision 6, Fire Damper Operability Verification
ASME Section XI, Article 1WP-3000 and Article IWV-3001
CR-05-11268, Unplanned TRMAS Entry, "A" Charging Pump Isolated Due to Excessive Primary Packing Leakage
CR-05-05820, Reactor Coolant System total Leakage Greater Than Normal

Section 1R23: Temporary Plant Modifications

S&W DWG No.12179-EM-133D, Service Water System
Temp Mod MP3-05-01, Control Building Service Water Enclosure Tube Closure Plate Control Room Habitability Seal
CR-05-08516, "B" Reactor Coolant Pump Reactor Building Closed Cooling Water Low Flow Alarm Set Point Lowered.

Section IEP2: Alert and Notification System Testing

MP-26-EPA-FAP-11, Public Alerting System Siren Accoustical Performance Testing
MP-26-EPA-FAP-11, Public Alerting System Field Acoustical Performance Testing

Section 1EP3: Emergency Response Organization (ERO) Augmentation Testing

MP-26-EPI-FAP-07, Notifications and Communications
COP 606, Monthly Surveillance Test of Emergency Notification Page Test

Section 1EP4: Emergency Action Level (EAL) Revision Review

Millstone Emergency Plan
Emergency Plan Implementing Procedures
MP-26-EPA-FAP02, 10 CFR 50.54(q) Reviews for Decrease in the Effectiveness

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

MP-26-EPA-FAP01, Management Program for Maintaining EP
EPD Preliminary Assessment of SERO Performance and Procedures, dated January 2005
DNOCP-0212, Internal Audit Program
MP-16-CAP-FAP01.2, Corrective Action Department Responsibilities

MP-16-CAP-FAP01.1, Condition Report Screening and Review
MP-26-CAP-FAP01.3, CR Ownership, Actions Ownership and Investigative Responsibility
QA Assessment Report 2004-0114, NRC Performance Indicators, September 27, 2004
QA Assessment Report 2004-0128, EP Facilities and Equipment
QA - Emergency Preparedness Integrated Master Assessment Plan
2004 Self-Assessment, Adequacy of EP Training for ERO
Emergency Preparedness Practical Exercise Critique Report, Drill #H04-01, 3/5/04
Emergency Preparedness Practical Exercise Critique Report, Drill #H04-02, 3/24/04
Emergency Preparedness Unannounced/Off-hours Callout Drill Critique Report, 6/18/04
Salem Training Drill Critique Report, Drill #S04-01, 7/22/04
Emergency Preparedness Unannounced/Off-hours Callout Drill Critique Report, 9/30/04
Emergency Preparedness Self-Evaluated Exercise Critique Report, 3/29/05
CR-04-00235, EP Audit, Deficiency, compliance issues in area of unqualified SERO personnel
CR-04-00294, SERO Qualification Lapses
CR-04-00460, SERO Qualification Lapses
CR-04-08146, SERO Qualification Lapses
CR-04-01968, SERO Qualification Lapses
CR-04-01969, SERO Qualification Lapses
CR-04-01971, SERO Qualification Lapses
CR-05-01077, SERO Qualification Lapses
CR-05-03335, SERO Qualification Lapses
CR-05-03776, SERO Qualification Lapses
CR-05-06810, SERO Qualification Lapses

Section 2OS1: Access Control to Radiologically Significant Areas and
Section 2OS2: ALARA Planning and Controls

Procedures:

RPM 1.3.8, Revision 8, Criteria for Dosimetry Issue
RPM 1.3.13, Revision 6, Bioassay Sampling and Analysis
RPM 1.3.14, Revision 7, Personnel Dose Calculations and Assessments
RPM 1.4.1, Revision 7, ALARA Reviews and Reports
RPM 1.4.2, Revision 2, ALARA Engineering Controls
RPM 1.4.4, Revision 2, Temporary Shielding
RPM 1.5.2, Revision 4, High Radiation Area Key Control
RPM 1.5.5, Revision 4, Guidelines for Performance of Radiological Surveys
RPM 1.5.6, Revision 3, Survey Documentation and Disposition
RPM 1.6.4, Revision 3, Siemens Electronic Dosimetry System
RPM 2.1.1, Revision 5, Issuance and Control of RWPs
RPM 2.1.2, Revision 2, ALARA Interface with the RWP Process
RPM 2.4.1, Revision 3, Posting of Radiological Control Areas
RPM 2.82, Revision 2, Requirements for Entry into MIDS Very High Radiation Areas
OP 3361A, Revision 8, Personnel Access Control to the MID System Components Inside Containment
RPM 5.2.2, Revision 10, Basic Radiation Worker Responsibilities
RPM 5.2.3, Revision 3, ALARA Program and Policy
RPM-GDL-008, Revision 0, Electronic Dosimeter Alarm Setpoints
EN 31013, Revision 2, Spent Fuel Pool Operations

Condition Reports:
05-11632, 05-11423, 05-11217, 05-10744, 05-10732, 05-10692, 05-10543, 05-09913

ALARA Council Meeting Notes:
Meetings conducted 10/18/2005 and 10/19/2005

Nuclear Oversight Department Field Observation (NODFOB) Reports

NODFOB Nos. 05-073, 05-076, 05-084, 05-089

Section 4OA5: Other Activities

Temporary Instruction 2515/160 Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors (NRC Bulletin 2004-01)

Drawing 25212-20905, Revision 5, Pressurizer - Zone 007, Millstone Unit 3
M3-1122, RT Pressurizer Nozzle 03X5644-A-T, Carbon to Stainless
M3-1123, RT Pressurizer Nozzle 03X5648-B-T, Carbon to Stainless
Condition Reports: CR-05-10361, CR-05-10398, CR-05-10360, CR-05-10376, CR-05-10413, CR-05-10382, CR-05-10404, CR-05-10383, CR-05-10407
Dominion Resources Services response dtd 7/27/04 to NRC Bulletin 2004-01
Dominion Resources Services supplemental response dtd 10/4/04 to NRC Bulletin 2004-01
Dominion Examination Report Prepared by EPRI NDE Center, "Review of Ultrasonic and Radiographic Examinations Performed at Millstone on the Pressurizer Spray Nozzle during U3R10."

Additional Documents reviewed for Sections 1R02 and 1R017

Audits and Self-Assessments

Audit 04-09: Design Control and Engineering Programs, Sept. 24, 2004
ITC-SA-04-42, Dominion Formal Self-Assessment Report, Design Issues, February 4, 2005
MP-SA-05-47, Dominion Formal Self-Assessment - Post Maintenance Testing Process, November 4, 2005

Calculations

86-061-563GM, Screenwash System Flow Balance, Rev. 1
89-040-01031-M3, Screenwash Strainer Replacement Impact on SWT Main Header Pressure and Flow, Rev. 1
AFW-04009M2, MP2 Aux Feed Water Pump Motor Bearing Cooler Sizing Verification, Rev. 0
INSTAIR-01841-C2, CCN 02, Stress Analysis of Station Air System Outside Reactor Containment, Sept. 8, 2004
S-01228S2, CCN03, MS2 EOP Setpoint Documentation, Feb. 12, 2004
T-02428S2, Millstone Unit 2 Turbine Building High Energy Line Break Analysis, Rev. 2

Corrective Action Reports

02-12052	04-01569	05-00104	05-05585
02-13578	04-01743	05-01147	05-06386
03-00383	04-01764	05-01483	05-07716
03-10817	04-01854	05-01546	05-08157
03-10818	04-02134	05-01626	05-08909
03-11942	04-02252	05-02757	05-11281
03-12014	04-04695	05-03046	05-11690
04-00025	04-05119	05-03734	98-2812
04-00120	04-06166	05-04117	98-2827
04-00793	04-07697	05-04554	M2-98-2812
04-00798	04-08604	05-04955	M2-98-2827
04-01323	04-09268	05-05400	M3-99-1623
04-01403	04-10268	05-05541	M3-99-2960
04-01552	04-10707		

Drawings

P12617978, Support, Exhaust Spread Manifold-14 Cyl., Rev. 0
P12617979, Support, Exhaust Spread Manifold-14 Cyl., Rev. 0
P12617980, Support, Exhaust Spread Manifold-14 Cyl., Rev. 0
P12619279, Manifold, Exhaust Spread-14 Cyl., Sh. 1 & 2, Rev. 0
12179-EM-103A, Millstone Unit 3, P&ID Reactor Coolant Pump Seals, Rev. 22
12179-EM-104A, Millstone Unit 3, P&ID Reactor Coolant Pump Seals, Rev. 45
25203-26015 Sh. 3 of 3, Safety Injection Tanks, Rev. 24
25212-20394 Sh. 2, Low Pressure Safety Injection ESF Bldg., Rev. 8
25212-20394 Sh. 3, Low Pressure Safety Injection ESF Bldg., Rev. 8
25212-20394 Sh. 4, Low Pressure Safety Injection ESF Bldg., Rev. 8
25212-20396 Sh. 18, ESF Bldg., Rev. 8
25212-20396 Sh. 19, ESF Bldg., Rev. 8
25212-20396 Sh. 20, ESF Bldg., Rev. 8
25212-29186 Sh. 42, Model LCT-20/54 Relief Valve (Flanged) For Nuclear Service, Oct. 16, 1972
25212-29186 Sh. 46, Pressure Relief Valve

Evaluations

DM3-00-0052-03, Installation of New Spread Exhaust Manifolds for Emergency Diesels, 3EGS*EGA & 3EGS*EGB, 04/01/03
M2-EV-99-0075, Mobile DTE Heavy Medium Use in P9AM and P9BM Motors, Rev. 0
M2-EV-98-0082, Reactor Building Closed Cooling Water Motor Bearing Capability at Elevated Ambient Temperatures, Rev. 0

Operability Determinations

MP2-002-05
MP2-027-02
MP2-032-02
MP2-063-04

Procedures

2701F-009, Lubrication Information Sheet, Rev. 8
AOP 3566, Immediate Boration, Rev. 8
DCM 03, Plant Changes, Revision 013-07, July 27, 2005
EOP 3509.1, Control Room, Cable Spreading Area or Instrument Rack Room Fire, Rev. 10
MP-05-DC-REF02.03, Section 3, IPTE Determination and Requirements, Revision 004, September 8, 2003
MP-13-SA-REF12.02, Determining Applicability of 10 CFR 50.59
MP-13-SA-REF12.03, Guidance for Performing 50.59 screens
RAC 12, 50.59/72.48 Screens and Evaluations, Revision 005, October 27, 2004
SP 3604C.1, Borated Water Source and Flowpath Availability Verification, Rev. 8
SP 3673.4, Aux. Shutdown Panel Operability Test (Remote Shutdown Components), Rev. 7
WC10, Temporary Modifications, Revision 005-03, March 10, 2005
WPS 16:34, Welding Procedure Specification for EDG Support Welds, August 1978

Work Orders

M3 03 02010	M3 03 15031	M3 03 15034	M3 03 15037
M3 03 15029	M3 03 15032	M3 03 15035	M3 03 15038
M3 03 15030	M3 03 15033	M3 03 15036	

Miscellaneous

25203-150-006A, Vendor Technical Manual - Magnetic Jack Type Control Element Drive, Rev. H
TR-DT-78, Magnetic Jack Type Control Element Drive Mechanism Design and Test Report, August 21, 1972
STD-485-300, Standard Design Specification for a Control Element Drive Mechanism, Rev. 2
UFSAR section 9.9.1, Control Element Drive Mechanism Cooling System
NE-02-F-238, Preliminary HELB Results to Support Motor Driven AFW Pump Operability, Rev. 1
AWO M3-03-08801 Modification of Calorimetric for LEFM / SDF M3-SDF-PPC-P3 Verification Test for P3 Plant Calorimetric-Add LEFM Inputs to Plant Calorimetric, June 3, 2004
Dominion Letter to NRC, Response to Bulletin 2003-01, August 7, 2003
Unit 3 Technical Specifications 3/4.7.14, Area Temperature Monitoring

LIST OF ACRONYMS

ALARA	as low as reasonably achievable
ANS	Alert and Notification System
AOP	abnormal operating procedure
AR	ALARA Reviews
ASME	American Society of Mechanical Engineers
BMV	bare metal visual
CDTT	containment drain transfer tank
CEA	control element assembly
CEDM	control element drive mechanism
CFR	code of federal regulations
CR	condition report
DNB	departure from nucleate boiling
DR	deficiency report
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EBFS	enclosure building filtration system
EDG	emergency diesel generator
E-Plan	emergency plan
EOP	emergency operating procedure
EP	emergency preparedness
EPRI	Electric Power Research Institute
ER	engineering request
FIN	finding
FSAR	Final Safety Analysis Report
HPSI	high pressure safety injection
IMC	inspection manual chapter
IST	in-service testing
LER	Licensee Event Report
LOCA	loss of coolant accident
LPSI	low pressure safety injection
MANTG	Mid-Atlantic Nuclear Training Organization
MR	maintenance rule
MSS	main steam system
MT	magnetic particle test
NCV	non-cited violation
NDE	non-destructive examination
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OD	operability determination
OWA	operator work-around
PCR	personnel contamination reports
PI&R	problem identification and resolution
PMT	post-maintenance tests
PMW	primary makeup water
PRA	Probabilistic Risk Assessment
PRNI	power range nuclear instruments
PT	penetrant test

RCS	reactor coolant system
RT	radiographic test
RWP	radiation work permit
SBO	station blackout
SBT	scenario-based testing
SDP	significance determination process
SE	safety evaluation
SERO	site emergency response organization
SORC	Site Organization Review Committee
TS	technical specification
TSLHRA	Technical Specification locked high radiation area
UFSAR	Updated Final Safety Analysis Report
UT	ultrasonic test
VHRA	very high radiation area
VT	volumetric examination
WRNI	wide range nuclear instruments