

May 14, 2007

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 05000336/2007002 AND 05000423/2007002

Dear Mr. Christian:

On March 31, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Millstone Power Station, Unit 2 and Unit 3. The enclosed inspection report documents the inspection results, which were discussed on April 11, 2007, with Mr. J. Alan Price, Site Vice President, and other members of your staff.

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

This report documents one NRC-identified finding and one self-revealing finding of very low safety significance (Green). Both of these findings were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington D.C. 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

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Sincerely,

/RA/

Paul G. Krohn, Chief  
Projects Branch 4  
Division of Reactor Projects

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

Enclosure: Inspection Reports 05000336/2007002 and 05000423/2007002  
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-336, 50-423

License Nos.: DPR-65, NPF-49

Report Nos.: 05000336/2007002 and 05000423/2007002

Licensee: Dominion Nuclear Connecticut, Inc.

Facility: Millstone Power Station, Units 2 and 3

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

Dates: January 1, 2007, through March 31, 2007

Inspectors: S. M. Schneider, Senior Resident Inspector, Division of Reactor Projects (DRP)  
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Approved by: Paul G. Krohn, Chief  
Projects Branch 4  
Division of Reactor Projects

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## SUMMARY OF FINDINGS

IR 05000336/2007-002, 05000423/2007-002; 01/01/2007 - 03/31/2007; Millstone Power Station, Unit 2 and Unit 3; Surveillance Testing, Problem Identification and Resolution

The report covered a 3-month period of inspection by resident inspectors and announced inspections by regional inspectors. Two (Green) non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or may be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### A. NRC-Identified and Self-Revealing Findings

#### Cornerstone: Initiating Events

Green. A Green self-revealing NCV of Technical Specification (TS) 6.8.1, "Procedures," was identified because Dominion did not adequately implement procedures while performing a surveillance to test containment isolation slave relays. This resulted in three containment isolation valves repositioning, which caused pressurizer level to increase above of the normal operating band and an isolation of containment cooling. Corrective actions for this issue included performing a level one root cause, revising the surveillance procedure to remove a potential human performance error trap, coaching of the individuals involved, and reinforcing good human error prevention techniques to both Maintenance and Operations departments.

This finding is more than minor because it is associated with the Initiating Events cornerstone and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the performance deficiency resulted in pressurizer level increasing above the TS allowed band and a temporary loss of containment cooling. The inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 SDP, in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Specifically, this finding did not contribute to both the likelihood of a reactor trip and that mitigating systems would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Resources component, because Dominion did not ensure that the slave relay testing procedure was adequate and complete since the procedure contained details in a permission step that could be incorrectly perceived as an action step. (Section 1R22)

#### Cornerstone: Mitigating Systems

Green. A Green NRC-identified NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified for failure to promptly correct a degraded condition associated with the air conditioning (A/C) for the B61 480 volt alternating current (VAC)

motor control center (MCC). Corrective actions included the B51 and B61 A/C units, implementation of compensatory cooling, restoring both A/C units by adding freon, and changing the vendor technical manual and equipment drawings to reflect the proper amount of freon charge.

The finding is more than minor because the equipment performance attribute of the Mitigating Systems cornerstone and the objective of ensuring the availability and capability of systems that respond to initiating events to prevent undesirable circumstances was affected. Specifically, the 480 VAC MCCs provide vital power to a number of safety-related systems designed to mitigate design basis events. The inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 SDP, in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Specifically, the finding did not result in a loss of function because the 480 VAC MCCs would have been able to perform their function of providing electrical power to their respective emergency loads over a probabilistic risk assessment mission time of 24 hours. This finding is related to the cross-cutting aspect of Problem Identification and Resolution in that Dominion did not take appropriate corrective actions to address the degraded A/C units in a timely manner, commensurate with the safety significance and complexity of the issue. (Section 4OA5.1)

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.

Unit 3 began the inspection period at 100 percent power. On January 26, 2007, Unit 3 reduced power to 30 percent to enter the primary containment to identify and characterize the source of an approximate 0.1 gallon per minute (gpm) increase in reactor coolant system unidentified leakage. On January 28, Dominion performed a reactor shutdown to Mode 3 (hot standby) to repair the leak, which was associated with an isolable flexitalic tube fitting. A reactor startup was performed on January 29, and the reactor was returned to 100 percent power on January 31.

## **1. REACTOR SAFETY**

### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01 - Two Samples)

##### a. Inspection Scope

The inspectors reviewed the readiness of Unit 2 and Unit 3 structures containing safety-related equipment for cold weather conditions. The inspection was intended to ensure that Dominion had configured the indicated equipment, instrumentation, and supporting structures in accordance with procedures, and that adequate controls were in place to ensure functionality of the systems. The inspectors reviewed licensee procedures and conducted walkdowns of the systems. Documents reviewed during the inspection are listed in the Attachment.

##### b. Findings

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04)

##### .1 Partial System Walkdowns (71111.04 - Four Samples)

##### a. Inspection Scope

The inspectors performed four 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 the critical portions of the selected systems to verify that they were aligned in accordance with the procedures, and to identify any discrepancies that could have an effect 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.

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The following systems were reviewed based on their risk significance for the given plant configuration:

Unit 2

- Emergency Boration System on February 2, 2007; and
- #1 Steam Generator Atmospheric Dump Control Valve on March 5, 2007.

Unit 3

- Containment Radiation Monitoring System on January 23, 2007; and
- Containment Underdrain Sump System on February 21, 2007.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S - One Sample)

a. Inspection Scope

The inspectors completed a detailed review of the Unit 3 Auxiliary Feedwater (AFW) system. The inspectors conducted a walkdown of the system to verify that the critical components such as valves, switches, and breakers were aligned in accordance with procedures and to identify any discrepancies that could have an affect on operability.

The inspectors also conducted a review of outstanding maintenance work orders to verify that the deficiencies did not significantly affect the AFW system function. In addition, the inspectors discussed system health with the system engineer and reviewed the condition report database to verify that equipment problems were being identified and appropriately resolved. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - Fourteen Samples)

a. Inspection Scope

The inspectors performed fourteen walkdowns of fire protection areas during the inspection period. The inspectors reviewed Dominion's fire protection program to identify 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

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status of fire detection and suppression systems, fire barriers, and any related compensatory measures. The inspectors compared the existing conditions 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

- Auxiliary Building, General Area, -45'6" Elevation (Fire Area A-1, Zone A);
- Auxiliary Building, Reactor Building Closed Cooling Water Pump and Heat Exchanger Area, -25'6" Elevation (Fire Area A-1, Zone B);
- Auxiliary Building, General Area, -5'0" Elevation (Fire Area A-1, Zone G);
- Auxiliary Building, "B" Low Pressure Safety Injection (LPSI) Pump Room, -45'6" Elevation (Fire Area A-3);
- Auxiliary Building, "B" High Pressure Safety Injection (HPSI) Pump Room, -45'6" Elevation (Fire Area A-4);
- Auxiliary Building, Charging Pump Room, -25'6" Elevation (Fire Area A-6, Zone A);
- Auxiliary Building, Degasifier Area, -25'6" Elevation (Fire Area A-6, Zone B); and
- Auxiliary Building, "A" Containment Spray and HPSI/LPSI Pump Room, -45'6" Elevation (Fire Area A-8, Zone A).

## Unit 3

- Cable Spreading Area, 24'6" Elevation (Fire Area CB-8);
- Base Floor Area of the Turbine Building, 4'7" and 14'6" Elevations (Fire Area TB-2);
- North Floor Area, Auxiliary Building, 4'6" Elevation (Fire Area AB-1, Zone A);
- West Switchgear Area Control Building, 4'6" Elevation (Fire Area CB-1);
- East Switchgear Area Control Building, 4'6" Elevation (Fire Area CB-2); and
- Battery Room 1, 3'8" Elevation (Fire Area CB-3).

### b. Findings

No findings of significance were identified.

### 1R06 Flood Protection Measures (71111.06 - Two Samples)

#### Internal Flooding Inspection

### a. Inspection Scope

The inspectors reviewed two samples of flood protection measures for equipment in the areas listed below. This review was conducted to evaluate Dominion's protection of the safety-related systems from internal flooding conditions. The inspectors performed a walkdown of the area and reviewed the Final Safety Analysis Report (FSAR), the internal flooding evaluation, and related documents. The inspectors examined 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

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analysis assumptions. The inspectors also interviewed Dominion engineers and other staff. Documents reviewed during the inspection are listed in the Attachment.

## Unit 2

- Turbine Building, Zone E3 (Turbine Hall, Elevation 14'6") for Impact on Main Feedwater and DC Switchgear Ventilation.

## Unit 3

- Auxiliary Building 4'6", 24'6" and 43'6" Elevations, including the Fuel Building Pipe Chase on Elevation 4'6".

### b. Findings

No findings of significance were identified.

## 1R07 Heat Sink Performance (71111.07B - Three Samples)

### a. Inspection Scope

The inspectors reviewed Dominion's programs for maintenance, testing, and monitoring of risk significant heat exchangers (HXs) to determine if potential HX deficiencies could mask degraded performance, and to assess the capability of the HXs to perform their design functions. The inspectors assessed whether the Millstone Unit 3 HX programs conformed to Dominion's commitments to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." In addition, the inspectors evaluated whether any potential common cause heat sink performance problems could affect multiple HXs in mitigating systems or result in an initiating event. Documents reviewed during the inspection are listed in the Attachment. Based on risk significance and prior inspection history, the following HXs were selected:

- Unit 3 "A" Reactor Plant Component Cooling Water System (RPCCW) HX;
- Unit 3 "B" Recirculation Spray System (RSS) HX; and
- Unit 3 "B" Emergency Diesel Generator (EDG) Intercooler HX.

Each of these HXs transfers its heat load directly to the service water (SW) system. The SW system was designed to supply water from Long Island Sound (the ultimate heat sink) to various heat loads to ensure a continuous flow of cooling water to systems and components necessary for plant safety both during normal operation and under abnormal conditions.

The inspectors reviewed system health reports, HX inspection records, eddy current test results, performance and surveillance test results, as-left HX tube plugging, and design specifications and calculations. The inspectors compared surveillance test and inspection data to the established acceptance criteria to verify that the results were acceptable and that operation was consistent with design.

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Additionally, the inspectors reviewed the methods for controlling biological fouling to verify that the SW hypochlorite injection system was implemented effectively. The inspectors performed field walkdowns of the accessible portions of the selected HXs, the SW system, and the SW hypochlorite injection system to assess the material condition of these systems and components.

The inspectors reviewed a sample of condition reports (CRs) related to the selected heat exchangers and service water systems, to verify that Dominion was appropriately identifying, characterizing, and correcting problems related to these systems and components.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11Q - Two Samples)

a. Inspection Scope

The inspectors observed licensed operator simulator training at Unit 2 on February 6, 2007, and at Unit 3 on January 23, 2007. The inspectors verified that the training evaluators had adequately addressed the applicable training objectives, that the operator performance was adequate, and that the evaluators were identifying and documenting crew performance problems. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - Three Samples)

a. Inspection Scope

The inspectors reviewed three samples of Dominion's evaluation of degraded conditions involving safety-related structures, systems, and 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 CRs were appropriately evaluated against applicable MR functional failure criteria as found in licensee scoping documents and procedures. The inspectors discussed these issues with the system engineers and MR 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:

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Unit 2

- Vital Switchgear Emergency Cooling (CR-06-11638).

Unit 3

- Service Water Strainer Pin Arm Welds (CR-07-00086); and
- Service Water System (3326) Classified Maintenance Rule (a)(1) for Strainer Failures and Piping Failures (CR-02-11761).

b. FindingsUnit 2

The inspectors reviewed Dominion's MR (a)(1) evaluation for the vital switchgear cooling system following the determination that two air conditioners (A/C-3 B51, and A/C-4 B61) had insufficient refrigerant charge as documented in CR-06-01138, dated November 21, 2006. The evaluation concluded that there was no functional failure because, in accordance with MP-24-MR-FAP710, "Maintenance Rule Functional Failures and Evaluations," the failures were considered design deficiencies that could not have been prevented by post-modification testing or predictive maintenance. The inspectors reviewed Dominion's MR procedure, CRs, and work orders applicable to the maintenance on the switchgear cooling system. In order to fully understand whether prior opportunities existed to prevent the A/C unit failures, the inspectors will conduct additional interviews and investigation into the maintenance rule and design control processes. As such, this issue remains an unresolved item (URI) pending further NRC investigation into prior A/C unit maintenance practices and review of Dominion's maintenance rule and design control processes for these A/C units.

**(URI 05000336/2007002-01, Maintenance Rule (a)(1) Evaluation of Unit 2 Vital Switchgear Emergency Cooling Failure).**

Unit 3

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - Eight Samples)a. Inspection Scope

The inspectors reviewed eight samples concerning the adequacy of maintenance risk assessments for emergent and planned activities during the inspection period. The inspectors utilized the Equipment-Out-of-Service quantitative risk assessment tool to evaluate 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

Enclosure

inspection are listed in the Attachment. The inspectors verified the conduct and adequacy of scheduled and emergent maintenance risk assessments for plant conditions affected by performance of the following maintenance and testing activities:

#### Unit 2

- "F" Instrument Air Compressor availability, week of January 1, 2007;
- Spent fuel pool moves and inspection activities on January 22 and 23, 2007;
- "A" EDG being declared inoperable following a SW leak on January 24, 2007;
- "B" EDG, "C" HPSI check valve in-service testing and "C" charging pump unavailable, yellow risk condition, on February 8, 2007; and
- Unplanned high reactor trip risk due to transmission line outage on February 22, 2007.

#### Unit 3

- Cumulative work activities on February 1, 2007;
- Failed containment sump pump 3SRW-P5 and unplanned entry into TS action statement 3.6.1.6 on February 21, 2007; and
- Turbine-driven AFW minimum flow restricting orifice repairs on March 5, 2007.

#### b. Findings

No findings of significance were identified.

### 1R15 Operability Evaluations (71111.15 - Ten Samples)

#### a. Inspection Scope

The inspectors reviewed ten 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 that no unrecognized increase in risk had occurred. The inspectors also reviewed compensatory measures to ensure that they were in place and were appropriately controlled. The inspectors reviewed licensee performance to ensure all related TS and FSAR 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

- "B" Emergency Diesel Generator Jacket Water Surge Tank Overflowed During Surveillance Testing (CR-07-02244);
- 2-CH-512 Blended Makeup Valve Failed in Mid-Position (CR-07-00877);
- Containment Sump Design Assumption Does Not Meet the Unit 2 Licensing Basis (CR-07-00905);

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- Unexpected Conditions Found During Inspection of Spent Fuel Assembly T-35 (CR-07-00704); and
- Non-conforming Service Water Piping to Vital Switchgear Cooling (CR-06-10055).

### Unit 3

- Part 21 Potentially Affecting Hydraulic Snubber Performance (CR-07-00231 and CR-07-00234);
- "A" Emergency Diesel Generator Jacket Water Cooling Leak (CR-07-01532);
- "B" and "D" Service Water Strainer Blowdown Line Crack (CR-07-01821);
- Recirculation Spray System MOV23B Stripped Flange Bolt (CR-07-02187); and
- Station Containment Gaseous Radiation Monitors Credited for Reactor Coolant System Leakage Detection (CR-07-01379 and CR-07-01380).

#### b. Findings

No findings of significance were identified.

### 1R19 Post-Maintenance Testing (71111.19 - Six Samples)

#### a. Inspection Scope

The inspectors reviewed six post-maintenance tests (PMT) 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

- Service Water Leak from Strainer Gasket on "A" Emergency Diesel Generator (M2-06-09114);
- Diesel Air Start Solenoid Operated Valve (AS2) Replacement (M2-00-10298); and
- "B" Emergency Diesel Generator Two Year Preventive Maintenance (various work orders).

### Unit 3

- Digital Rod Position Indication (DRPI) Alarm Card Replacement (M3-07-01200);
- "A" Quench Spray Pump Cross Connect 3QSS\*V42 Refurbishment (M3-03-14188); and
- 3FWA\*P2 Minimum Flow Restricting Orifice Repair (M3-06-12272).

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20 - One Sample)

a. Inspection Scope

The inspectors reviewed activities for a forced outage following a Unit 3 shutdown associated with an approximate 0.1 gallon per minute (gpm) increase in reactor coolant system (RCS) unidentified leak rate on January 28, 2007, for compliance with TS and approved procedures, configuration control, risk management, and maintenance practices. Documents reviewed during the inspection are listed in the Attachment. During this forced outage, the inspectors monitored Dominion's control of the outage activities listed below:

- Corrective actions to repair RCS flexible hose downstream of 3RCS\*V999;
- As low as reasonably achievable (ALARA) planning and management;
- Shutdown risk evaluations;
- Reactor Shutdown to Mode 3;
- Plant startup; and
- Power ascension.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - Seven Samples)

a. Inspection Scope

The inspectors reviewed seven surveillance activities to evaluate whether the testing adequately demonstrated equipment operational readiness and the ability to perform the intended safety-related function. The inspectors attended pre-job briefs; ensured that selected prerequisites and precautions were met; and verified 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 bases, licensing bases, and TS requirements, and to verify that the 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

- Boric Acid Pumps and Discharge Check Valves In-Service Testing (IST) (SP-2601L);

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- Diesel Generator Slow Start Operability Test (SP-2613L);
- "A" Diesel Generator Slow Start Operability Test, Facility 1 (SP-2613K); and
- "B" Charging Pump and Discharge Check IST (SP-2601K).

### Unit 3

- "A" Quench Spray Pump 3QSS\*P3A Operational Readiness IST (SP-3609.1);
- Containment Isolation Phase "A" K623 Slave Relay (SP-3646A.8); and
- Turbine-driven Auxiliary Feedwater Pump Operational Readiness IST (SP-3623.3).

## b. Findings

### Unit 2

No findings of significance were identified.

### Unit 3

Introduction. A Green self-revealing NCV of TS 6.8.1, "Procedures," was identified because Dominion did not adequately implement procedures while performing a surveillance to test containment isolation slave relays. Specifically, instrumentation and control (I&C) technicians misinterpreted a permission step as an action step, resulting in the repositioning of three containment isolation valves.

Description. On January 31, 2007, Operations was restoring from containment isolation Phase "A" K623 slave relay testing, in accordance with surveillance procedure SP-3646A.8, "Slave Relay Testing - Train A." The purpose of the surveillance was, in part, to satisfy TS 4.3.2.1, "Engineering Safety Features Actuation System Instrumentation," slave relay testing requirements by verifying that a given slave relay operated properly following a simulated engineered safety feature actuation.

During the system restoration portion of the surveillance, I&C technicians incorrectly performed step 4.9.15, such that, terminal jumpers were removed prior to removing the testing sliding links. The technicians misinterpreted this permission step as an action step, since the step provided the technical details necessary to carry out the action. As a result, three containment isolation valves repositioned to their closed safety-related position (3IAS\*PV15, 3CDS\*CTV39A and 3CDS\*CTV39B). This had the following plant impacts:

- A portion of the instrument air system was isolated from containment. This caused an isolation of letdown flow, which resulted in pressurizer level increasing above the TS allowed band. Operations entered TS action statement 3.4.3.1(b) for a high pressurizer level and restored pressurizer level to within the normal band.
- Chill water was isolated from the "A" and "B" containment air coolers. This resulted in a temporary loss of containment cooling. Operations took action to limit the increase in containment pressure by starting the "A" and "B" containment vacuum

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pumps. Containment pressure and containment temperature did not increase beyond the TS allowed bands.

The performance deficiency is that Dominion did not properly implement a safety-related surveillance procedure to test containment slave relays. Specifically, I&C technicians misinterpreted a permission step as an action step, resulting in the repositioning of three containment isolation valves.

Analysis. This finding is more than minor because it is associated with the Initiating Events cornerstone and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the performance deficiency resulted in pressurizer level increasing above the TS allowed band and a temporary loss of containment cooling. The inspectors determined this finding to be of very low safety significance (Green) through performance of a Phase 1 SDP, in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Specifically, this finding did not contribute to both the likelihood of a reactor trip and mitigating systems would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Resources component, because Dominion did not ensure that the slave relay testing procedure was adequate and complete since the procedure contained details in a permission step that could be incorrectly perceived as an action step.

Enforcement. TS 6.8.1, requires, in part, that written procedures be implemented covering surveillance activities on safety-related equipment. Contrary to the above, on January 31, 2007, I&C technicians did not adequately perform Surveillance Procedure SP-3646A.8, "Slave Relay Testing - Train A," Revision 021-03, Step 4.9.15. This resulted in a temporary loss of containment cooling and a pressurizer level increase above the TS allowed band. Corrective actions for this issue included performing a level one root cause, revising the surveillance procedure to remove a potential human performance error trap, coaching of the individuals involved, and reinforcing good human error prevention techniques to both Maintenance and Operations. The violation has been determined to be of very low safety significance (Green) and has been entered into Dominion's corrective action program (CR-07-01045). Therefore, this violation is being treated as a NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000423/2007002-02, Failure to Implement Surveillance Procedure Resulted in a Temporary Loss of Containment Cooling and High Pressurizer Level TSAS Entry).**

#### 1R23 Temporary Plant Modifications (71111.23 - Two Samples)

##### a. Inspection Scope

The inspectors reviewed two temporary modifications to verify that they did not affect the function of important safety systems. The inspectors reviewed the temporary modifications and their associated 10 CFR 50.59 screening against FSAR and TS

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requirements to ensure the modifications did not affect system operability or availability. Documents reviewed during the inspection are listed in the Attachment.

### Unit 2

- Temporary Pressure Gage at FT-341 for Monitoring Reactor Coolant System Backleakage into #4 Safety Injection Tank.

### Unit 3

- Control Building Service Water Enclosure Habitability Seal.

### b. Findings

No findings of significance were identified.

### **Cornerstone: Emergency Preparedness**

#### 1EP6 Drill Evaluation (71114.06 - Two Samples)

##### a. Inspection Scope

The inspectors observed the conduct of licensed operator simulator training for Unit 2 on February 6, 2007, and for Unit 3 on January 23, 2007. The inspectors evaluated the Operations crew activities related to evaluating the scenario and making proper event classification determinations. Additionally, the inspectors assessed the ability of Dominion's evaluators to adequately address operator performance deficiencies identified during the exercise. Documents reviewed during the inspection are listed in the Attachment.

##### b. Findings

No findings of significance were identified.

## **2. RADIATION SAFETY**

### **Cornerstone: Occupational Radiation Safety**

#### 2OS1 Access Control to Radiologically Significant Areas (71121.01 - Eleven Samples)

##### a. Inspection Scope

During the period February 12-15, 2007, 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, during power operations. Implementation of these controls was

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reviewed against the criteria contained in 10 CFR 20, the TSs, and Dominion's procedures. This inspection activity represents the completion of eleven samples relative to this inspection area. Documents reviewed during the inspection are listed in the Attachment.

#### Plant Walkdown and Radiation Work Permits (RWP) Reviews

- The inspector toured accessible radiologically controlled areas in Unit 3, and with the assistance of a radiation protection technician, performed independent radiation surveys of selected areas to confirm the accuracy of survey data, and the adequacy of postings.
- The inspector identified activities in Units 2 and 3 where radiologically significant work was being performed. These activities included transferring a filled resin cask from the -45' level of the Unit 2 Auxiliary Building to the truck bay, cleaning a floor sump on the 4' level of the Unit 3 Engineered Safeguards Facility (ESF), and rearranging of spent fuel in the Unit 3 spent fuel pool. The inspector reviewed the applicable RWPs for these activities (RWP Nos. 207-0017, 307-0003, and 307-0016), and electronic dosimeter dose/dose rate setpoints for the associated tasks, to determine if the radiological controls were acceptable and if the setpoints were consistent with plant policy.
- During 2006, there were no internal dose assessments for any actual internal exposures greater than 50 mrem committed effective dose equivalent (CEDE). The inspector reviewed the CEDE dose assessments for the highest internal exposure for 2006; no CEDE exceeded 10 mrem.
- The inspector also reviewed a recent Personnel Contamination Report (PCR M3-07-001) and the shallow dose equivalent exposures for 2006, and determined that no exposure exceeded the occupational exposure control effectiveness performance indicator screening criteria.

#### Problem Identification and Resolution

- The inspector reviewed a licensee self-assessment, (MP-SA-06-74) and Nuclear Oversight Audit (06-08) to determine if identified problems were entered into the corrective action program for resolution.
- Seven CRs associated with radiation protection control access, initiated between October 1, 2006, and February 11, 2007, were reviewed and discussed with the Dominion staff to determine if the follow-up activities were being conducted in an effective and timely manner, commensurate with their safety significance.

### High Radiation Area and Very High Radiation Area Controls

- Changes made to high radiation area and very high radiation area procedures, since the last inspection, were reviewed and management of these changes were discussed with the Radiation Protection Manager.
- Keys to locked high radiation areas (LHRA) were inventoried, and accessible LHRAs were verified to be properly secured and posted during a plant tour in Unit 3.

### Radiation Worker and Radiation Protection Technician Performance

- Several radiologically-related CRs were reviewed to evaluate if the incidents were caused by repetitive radiation worker errors or if an observable pattern traceable to a similar cause was evident.
- Radiation Protection Technicians were questioned regarding their knowledge of plant radiological conditions and associated controls.

#### b. Findings

No findings of significance were identified.

### 2OS2 ALARA Planning and Controls (71121.02 - Nine Samples)

#### a. Inspection Scope

During the period, February 12-15, 2007, the inspector conducted the following activities to verify that Dominion was properly implementing operational, engineering, and administrative controls to maintain personnel exposure ALARA for activities performed in 2006. The inspector also reviewed the dose controls for current activities and the dose forecast for the spring 2007 Unit 3 outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and Dominion's procedures. Documents reviewed during the inspection are listed in the Attachment.

### Radiological Work Planning

- The inspector reviewed pertinent information regarding cumulative exposure history, current exposure trends, and ongoing activities to assess the performance during the 2006 Unit 2 outage, current exposure trends, and the challenges for the Unit 3 refueling outage.
- The inspector reviewed the exposure status for tasks performed during the Unit 2 outage and compared actual exposure with estimates contained in ALARA reviews. Outage jobs reviewed included the pressurizer replacement (Review 2-06-20), emergency core cooling system sump modification (Review 2-06-30), and outage scaffolding construction (Review 2-06-13).

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- The inspector evaluated the departmental interfaces between radiation protection, operations, maintenance, and engineering to identify missing ALARA program elements and interface problems. The evaluation was accomplished by attending a Unit 3 outage challenge board meeting and various pre-job briefings; reviewing recent Station ALARA Council Committee meeting minutes, post-job ALARA reviews, Nuclear Oversight Department Field Observation reports; and interviewing the station ALARA coordinator.

#### Verification of Dose Estimates

- The inspector reviewed the assumptions and basis for the 2007 site collective exposure projections for site operations and the spring Unit 3 refueling outage.
- The inspector reviewed Dominion's procedures associated with monitoring and dose estimates when the forecast cumulative exposure for tasks was approached. The inspector reviewed the dose/dose rate alarm reports and exposure data for individuals receiving the highest total effective dose equivalent (TEDE), CEDE, and shallow dose estimate (SDE) exposures for 2006 to confirm that no individual exposure exceeded the regulatory annual limit.

#### Jobs-In-Progress

- The inspector observed the pre-job briefings for de-sludging the Unit 3 ESF building sump and for rearranging spent fuel in the Unit 3 spent fuel pool. The inspector also reviewed the pre-job briefing materials for transferring a filled resin liner from the -45' level of the Unit 2 Auxiliary Building to the 14'6" level truck bay.
- The inspector reviewed the ALARA Evaluations (AEs 3-07-02/03//04/05/06) and the Post-Job ALARA Review related to investigating and stopping a leak of a Unit 3 post-accident sampling system valve (3RCS\*V999) on January 27, 2007. The inspector reviewed the dose estimates, final actual doses, use of robotic equipment, and operational measures taken to reduce dose rates to limit personnel exposure.

#### Declared Pregnant Workers

- The inspector reviewed the procedural controls for managing declared pregnant workers (DPW) and determined that no DPWs were employed during 2006.

#### Problem Identification and Resolution

- The inspector reviewed elements of Dominion's corrective action program related to implementing the ALARA program to determine if problems were being entered into the program for timely resolution. The inspector also reviewed seven CRs related to controlling individual personnel exposure and programmatic ALARA challenges, a Departmental Self-Assessment (MS-SA-06-74), minutes from ALARA Council meetings, four Nuclear Oversight field observation reports, and an audit report to

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evaluate the threshold for identifying, evaluating, and resolving radiological control issues.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES [OA]**

4OA1 Performance Indicator (PI) Verification (71151 - Two Samples)

a. Inspection Scope

Cornerstone: Barrier Integrity

The inspectors sampled Dominion submittals for two Unit 3 PIs. The inspectors reviewed data from the first quarter 2004 through the fourth quarter 2006 to verify the accuracy of the PI data reported during these periods. Definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the reporting basis for each data element.

Unit 3

- Reactor Coolant System Specific Activity
- Reactor Coolant System Leak Rate

The inspectors reviewed portions of the operations logs and raw PI data developed from monthly operating reports and discussed the methods for compiling and reporting the PIs with cognizant licensing and engineering personnel. The inspectors compared graphical representations from the most recent PI report to the raw data to verify that the data was correctly reflected in the report. Documents reviewed during this inspection are listed in the Attachment.

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 CR and attending daily management review committee meetings. Documents reviewed are listed in the Attachment.

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.2 Annual Sample Review (71152 - One Sample)

Unit 3 - Repetitive Leaks in Safety-Related Air Conditioning Units

a. Inspection Scope

The inspectors reviewed Dominion's actions in response to repetitive minor leaks in the safety-related air conditioners which cool the engineered safety features building (System 3HVQ). The system consists of four similar Freon-based units. The inspectors reviewed Dominion's identification of these problems, the related evaluations and operability determinations, the extent-of-condition review, the corrective actions specified, and their prioritization. The inspectors walked down accessible portions of the systems and interviewed applicable system engineers.

b. Findings and Observations

No findings of significance were identified. The basis for the classification of the HVQ system as non-risk-significant with respect to the maintenance rule was that temperatures would likely not exceed a 120 degree Fahrenheit (°F) requirement in the first 24 hours of operation, the point to which the relevant probabilistic risk assessment models are compiled. However, the inspectors identified that the equipment protected by the air conditioners would be subject to elevated temperatures after the first 24 hours, and during its design mission period. Another evaluation, however, showed that the equipment would survive the design mission run time at the calculated elevated temperatures, so the classification of the HVQ system as non-risk-significant was acceptable. A review of the use of an initial 24 hour period of evaluation when later consequences develop, is being examined by Dominion.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 Containment Radiation Monitor Particulate Alarm

a. Inspection Scope

On January 25, 2007, at 11:33 p.m., Operations personnel responded to a Unit 3 containment radiation monitor (3CMS\*RE22) particulate alarm and 0.04 gpm increase in leakage into the containment unidentified leakage sump. Operations entered two Abnormal Operating Procedures (AOP): AOP-3573, "Radiation Monitoring Response," and AOP-3555, "Reactor Coolant Leak." Operations concluded there was a small leak in containment, less than the TS limit of 1 gpm for unidentified RCS leakage. On January 26, 2007, at approximately 5:00 p.m., Dominion reduced power to 30 percent and made a containment entry to identify and characterize the leak. The leak was discovered to be coming from an isolable flexitalic tube fitting connecting the "A" loop drain to the RCS sample and post accident sampling system. On January 28, 2007, at 9:51 a.m., Dominion commenced a reactor shutdown to Mode 3 to repair the leaking fitting. The leak was repaired and tested satisfactorily. On January 29, 2007, at 3:53 p.m., a reactor startup was commenced and Unit 3 returned to 100 percent power.

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on January 31, 2007, at 4:18 p.m. The inspectors evaluated the adequacy of operator actions in response to the RCS leak and reviewed TS and emergency action level considerations. In addition, the inspectors observed and evaluated Operation's implementation of station procedures for the reactor shutdown and startup.

b. Findings

No findings of significance were identified.

.2 Inadvertent Closure of Three Containment Isolation Valves

a. Inspection Scope

On January 31, 2007, at 11:24 p.m., Operations responded to the inadvertent closure of three Unit 3 containment isolation valves as a result of improper system restoration following slave relay testing (SP 3646A.8-009). The inspectors reviewed operator logs, technical specifications, primary plant computer containment parameters and reactor coolant system parameter traces, and evaluated the adequacy of operator actions in response to the event.

b. Findings

No findings of significance relative to event response were identified. See Section 1R22 for further details.

.3 (Closed) Licensee Event Report (LER) 05000336/2006-003-00, Technical Specification Shutdown

On April 1, 2006, Unit 2 completed a TS required shutdown from 100 percent power due to inoperability of the turbine-driven auxiliary feedwater pump (TDAFW). During surveillance testing the pump outboard thrust bearing had failed, causing the equipment to be inoperable. Dominion determined that pump balance drum/sleeve misalignment during pump assembly at the manufacturing facility, or during shipping, caused the bearing failure. The issue was reviewed by the NRC during the component design basis inspection and documented in NRC Inspection Report 05000336/2006010 and 05000423/2006010. No findings of significance were identified. This LER is closed.

4OA5 Other Activities

.1 (Closed) Unresolved Item (URI) 05000336/2006005-03, Failure to Correct a Condition Adverse to Quality affecting the B51 and B61 Enclosures

Introduction. A Green NRC-identified NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified for not promptly correcting a degraded condition associated with the safety-related B61 480 VAC motor control center (MCC) enclosure. Dominion did not implement corrective actions subsequent to the identification of a condition adverse to quality which resulted in declaring the B61 and the B51 480 VAC

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MCC enclosures inoperable. This issue was documented as an URI in NRC Inspection Report 05000336/2006-005, pending the review of Dominion's corrective actions and evaluations, including Dominion's review of a prior issue associated with the associated air conditioning units initially discussed in URI 05000336/2004008-02, and closed in NRC Inspection Report 05000336/2005004.

Description. On November 18, 2006, Unit 2 Operations identified a degradation of the B61 480 VAC MCC enclosure A/C unit, noting that the temperature in the enclosure was 96 degrees Fahrenheit (°F), and that the A/C unit did not appear to be loading properly. This was documented in Dominion's corrective action program as CR-06-11540. Unit 2 has two 480 VAC MCCs (B51 MCC and B61 MCC) which supply power to various safety-related motor-operated valves and containment cooling fans. Each MCC is housed in a self-contained enclosure with a dedicated A/C unit to control temperature. The enclosures protect the MCCs in the event of a high energy line break in the auxiliary building.

On November 19, 2006, the inspectors identified that the temperature in the B61 MCC enclosure appeared to be abnormally high and reported this condition to Operations personnel in the control room and the Outage Control Center, questioning the ability of the A/C units to perform their design function. Operations personnel assured the inspectors that the A/C unit was operable, based on being able to start and provide cooling prior to the MCC enclosure reaching an operability temperature limit (104 °F). The inspectors informed Dominion management of their concern with the apparent equipment degradation. Subsequently, on November 21, 2006, Engineering determined that neither of the A/C units (B51 or B61) were functioning properly. Operations declared both A/C units inoperable and entered TS 3.0.3, "Conditions Prohibited by Technical Specifications," until compensatory actions could be completed. Dominion entered into the corrective action program as CR-06-11638. Dominion subsequently determined that this condition had existed since November 15, 2006, when the plant was starting up from the refueling outage, and that corrective maintenance performed during the outage had resulted in an insufficient freon charge of the A/C units. Corrective actions included implementation of compensatory cooling, adding freon to the A/C units, and changing the vendor technical manual and equipment drawings to reflect the proper amount of freon charge.

The performance issue associated with this finding is that Dominion did not promptly correct a known degraded condition affecting safety-related equipment. Specifically, Dominion did not adequately evaluate the A/C units as being unable to perform their safety-related function, or take corrective actions to implement compensatory cooling, when the problem was first identified on November 18, 2006, and then again on November 19, 2006.

Analysis. The finding was more than minor because the equipment performance attribute of the Mitigating Systems cornerstone and the objective of ensuring the availability and capability of systems that respond to initiating events to prevent undesirable circumstances was affected in that the 480 VAC MCCs provide vital power to a number of safety-related systems designed to mitigate design basis events. In

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addition, if left uncorrected, both divisions of the 480 VAC MCCs may not have been able to respond to design basis events due to room temperatures exceeding the switchgear design temperature limits and subsequent failure of the switchgear. Traditional enforcement did not apply to this issue because there were no actual safety consequences, impacts on the NRC's ability to perform its regulatory function, or willful aspects to the violation.

This finding is concerned with the enclosure room cooling system for the 480 VAC MCCs, therefore, an evaluation of the impact on this system due to the degraded cooling system was performed. Dominion's Engineering evaluation determined that the MCCs would have been able to perform their function of providing electrical power to their respective 480 VAC emergency loads despite the degraded condition of the A/C units over a probabilistic risk assessment mission time of 24 hours. Since the actual room temperature did not exceed 122 °F, it was reasonable to conclude that although the corrective actions for the room cooling were not promptly initiated, the MCCs remained functional. This finding was determined to be of very low safety significance (Green) by performing a Phase 1 SDP in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Specifically, the finding was not related to a design or qualification deficiency; did not result in a loss of function; and was not related to a seismic, flooding, or severe weather event. This finding is related to the cross-cutting aspect of Problem Identification and Resolution in that Dominion did not take appropriate corrective actions to address the degraded A/C units in a timely manner, commensurate with the safety significance and complexity.

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, on November 18, 2006, and again on November 19, 2006, Dominion did not adequately evaluate or promptly correct the degraded condition of the B61 480 VAC MCC enclosure A/C unit in order to assure that the affected systems were capable of performing their intended functions. Both the B51 and B61 units were subsequently declared inoperable on November 21, 2006. This violation is determined to be of very low safety significance (Green) and has been entered into Dominion's corrective action program (CR-06-11638). Therefore, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000336/2007002-03, Failure to Promptly Correct the Degraded Condition of the 480 VAC MCCs)**

.2 (Closed) URI 05000336/2006004-02, Application of TS 3.0.5 for Emergency or Normal Power Source Inoperable

The URI was opened to review Dominion's determination of what constitutes a "normal" power supply and their evaluation of the acceptability of a three-hour delay time for providing a backup power supply. During a previous inspection, the inspectors questioned Operations on whether removing the reserve station service transformer (RSST) from service while the "B" train of control room emergency ventilation was

unavailable was a violation of TS 3.0.5, "Limiting Condition of Operation," which precluded removing the emergency or normal power supply from a train of equipment when its redundant train was unavailable. At the time, Dominion had entered a short term action statement for the "A" Train transfer to the RSST being inoperable while engineered safeguards actuation system under voltage relay surveillance testing was in progress.

The inspectors reviewed Dominion Memorandum RA-06-041, "Millstone Unit 2 Technical Specification 3.0.5 Response to NRC," and Engineering Record of Correspondence 25203-ER-99-0092, Revision 3, "Appendix R Cooldown Analysis Assumptions and Results," and concluded that Dominion's definition of "normal" power supply (RSST and the backup power cross-connect from Unit 3) was consistent with General Design Criteria 17, "Electric Power Systems." In addition, the inspectors noted that the TS Bases assumption that three hours was required to lineup the backup power cross-connect from Unit 3 was bounded by Dominion's 10 CFR 50, Appendix R analysis. The inspectors had no further questions on this issue, URI 05000336/2006004-02 is closed.

#### 4OA6 Meetings, Including Exit

##### Heat Sink Performance

The inspectors presented the results of the inspection to Mr. A. Skip Jordan, Plant Manager - Nuclear, and other members of the staff, on January 12, 2007.

##### Access Controls and ALARA Planning and Controls

The inspector presented the results of the inspection to Mr. J. Alan Price, Site Vice President - Millstone, and members of his staff on January 15, 2007.

##### Integrated Report Exit Meeting Summary

On April 11, 2007, the inspectors presented the overall inspection results to Mr. J. Alan Price, Site Vice President - Millstone, and members of his staff, who acknowledged the findings. The inspectors asked Dominion whether any of the material examined during the inspection period should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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## **ATTACHMENT**

### **SUPPLEMENTAL INFORMATION**

#### **KEY POINTS OF CONTACT**

##### Licensee Personnel

A. Airas, System Engineer  
W. Brown, Licensing Engineer  
F. Cietec, Maintenance Rule Coordinator  
A. Chyra, PRA Analyst  
T. Cleary, Licensing  
G. Closius, Licensing  
D. DelCore, Supervisor, Health Physics Operations  
P. Dillon, System Engineer - SBO Diesel  
D. Dodson, Supervisor, Station Nuclear Licensing  
R. Griffin, Director - Nuclear Station Safety & Licensing  
P. Grossman, Manager-Nuclear Design Engineering  
R. Hoffman, I&C Supervisor  
A. Jordan, Director - Nuclear Station Operations and Maintenance  
E. Laine, Manager, Radiological Protection & Chemistry  
L. Loomis, System Engineer - RSS  
M. Nappi, Supervisor, Radiation Protection - ALARA  
D. Owens, Coatings Specialist  
A. Price, Site Vice President - Millstone  
W. Saputo, System Engineer - RPCCW  
W. Spahn, Supervisor - Systems Engineering  
M. Stark, Heat Exchanger Program Owner  
S. Turowski, Supervisor-HP Technical Services  
L. Wagnecz, System Engineer - SW

##### NRC Personnel

J. Benjamin, Resident Inspector, DRP  
L. Cheung, Senior Reactor Inspector, DRS  
K. Diederich, Reactor Inspector, DRS  
R. Fernandes, Resident Inspector, DRP  
D. Johnson, Reactor Inspector, DRS  
T. Moslak, Health Physicist, DRS  
S. Ng, Headquarters  
W. Raymond, Senior Resident Inspector, Pilgrim, DRP  
S. Schneider, Senior Resident Inspector, Millstone, DRP

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

05000336/2007002-01	URI	Maintenance Rule (a)(1) Evaluation of Unit 2 Vital Switchgear Emergency Cooling Failure (Section 1R12)
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### Opened and Closed

05000423/2007002-02	NCV	Failure to Implement Surveillance Procedure Resulted in a Temporary Loss of Containment Cooling and High Pressurizer Level TSAS Entry (Section 1R22)
05000336/2007002-03	NCV	Failure to Promptly Correct the Degraded Condition of the 480 VAC MCCs (Section 4OA5.1)

### Closed

05000336/2006003-00	LER	Technical Specification Shutdown (Section 4OA3.3)
05000336/2006005-03	URI	Failure to Correct a Condition Adverse to Quality affecting the B51 and B61 Enclosures (4OA5.1)
05000336/2006004-02	URI	Application of TS 3.0.5 for Emergency or Normal Power Source Inoperable (Section 4OA5.2)

## LIST OF DOCUMENTS REVIEWED

### **Section 1R01: Adverse Weather Protection**

OP-3352, Revision 013-01, Heat Tracing  
 OP-200.13, Revision 000-01, Unit 3 Cold Weather Preparation Checklist  
 OP-2266, Revision 000-05, Response to Low or High Outside Temperature

### **Section 1R04: Equipment Alignment**

Control Room Logs  
 CR-05-12974, Temperature in AFW Piping to a SG is Increasing  
 CR-06-06200, Ventilation Register in TDAFW Pump Room Requires Cleaning  
 CR-06-09865, Leak on "B" AFW Pump 3FWA\*P1B Recirc Line - Unplanned LCO  
 CR-06-12301, Safety Equipment Mounted in MP3 TDAFW Pump Valve Room Lacks Ownership  
 CR-07-00321, While Swapping to "B" Instrument Air Compressor A Loud Air Leak Was Heard When the "B" IAS Compressor Loaded, Found 3IAS-V14 Out of Position Open  
 CR-07-01080, Evaluation of Backup Methods for RMS-04/05A  
 CR-07-02109, The "B" EDG Room Experienced Water Entry Through the F38B Ventilation Damper

CR-07-02376, 3WTC\*V842 Out of Position During Maintenance Tag Verification  
3C11-SWP02-0016  
DNAP-1408, Revision 2, Dominion Operability Determination Program  
EN-31098, Revision 006, MP3 Condition Monitoring of Structure  
M2-07-01812, #1 Steam Generator Atmospheric Dump Control Valve Assembly Pen #1  
M3-EV-07-0010, Revision 0, 3RMS\*RE41 & 42 as Functional Alternates to  
3RMS\*RE04A & -05A  
Millstone Unit 3 EQ Master List, Revision 2, Electrical Equipment Environmental Qualification  
MP-14-OPS-GDL100, Revision 007-01, General Night Order  
NRC Inspection Manual Part 9900: Technical Guidance, Operability Determinations &  
Functionality Assessments for Resolution of Degraded or Nonconforming Conditions  
Adverse to Quality or Safety  
OP-3322, Revision 020-04, Auxiliary Feedwater System  
OPS-U3-14-OPS-BAP03, Revision 146-00, Unit 3 TRM  
SP-2610E, Revision 010-00, MSIV Closure and Main Steam Valve Operational Readiness  
Testing  
SP-3622.3-001, Revision 014, TDAFW Pump Operational Readiness Test  
SP-3622.9, Revision 009-12, Auxiliary Feedwater Valve Operability Test  
SP-3673.6, Revision 004-05, Accident Monitoring Instrumentation  
TS Bases 3/4.3.3.5, Remote Shutdown Instrumentation  
TS 3.3.3.6, Accident Monitoring instrumentation

**Section 1R05: Fire Protection**

Millstone Nuclear Power Station Unit 3 Fire Protection Evaluation Report, Revision 16  
Millstone Unit 2 Fire Hazards Analysis, Revision 9

**Section 1R06: Flood Protection Measures**

Calculation P(R)-1071, Auxiliary building Flood Study: Maximum Obtainable Height of Flood  
Water in the Auxiliary Building Due to a Pipe Break, Revision 0, 1/16/03  
Calculation P(R)-1701, Change 1 due to DCR M3-97102  
Final Safety Analysis Report, Sections 3.6.1 and 6.3.2.5  
FSAR Figure 3.8-62, Sheets 1, 2, 3 and 4, Amendment 12 dated February 1985  
IC-2440, Revision 0, Circulating Water Pump Trips Functional Test  
Level Switch Setpoint Calibration LCR# 3DAS-063a, 063B  
M2-00-11147, Circulating Water System - Miscellaneous Item  
M2-04-08860, Circulating Water Systems - Miscellaneous Item  
MP2 Internal Flooding Evaluation, Revision 0  
OP3353.MB1C, Revision 005-06, Main Board 1C Annunciator Response, Tile 2-8  
Pipe Tunnel Flood Alarms Maintenance History Records, 3DAS-063A/B  
Test Loop Diagram 12179-3DAS-063A/B, Revision 1  
Work Orders M30406880 and M30315464

**Section 1R07: Heat Sink Performance**

3R10 "B" Service Water Header Inspections, Point 2 Package  
 3R10 "B" Service Water Header Inspections, Point 1 Package  
 3RSS\*E1A Service Water Cool Heat Exchanger Inspection Form, November 2, 2006  
 Calc 96-001, Revision 1, Empirical Adjustment of the MP3 SW Model to 1995 Flow Test Data  
 and Incorporation of the Latest SW System Design Change Notices  
 Calc 90-069-01065M3, Revision 1, MP3 SW System NRC Generic Letter 89-13 Item No. IV  
 Design Basis Summary Report  
 DM3-00-0470-05, RPCCW HX Pass Plate Reinforcement and Inlet Screen Removal  
 Drawing 25212-26933, Sheet 2, Revision 68, Service Water P&ID  
 Drawing 25212-26912, Sheet 3, Revision 35, RSS P&ID  
 Drawing 25212-26933, Sheet 1, Revision 44, Service Water P&ID  
 Drawing 25212-26933, Sheet 3, Revision 30, Service Water P&ID  
 Drawing 25212-26933, Sheet 4, Revision 38, Service Water P&ID  
 EN 31084, Revision 007, Operating Strategy for Service Water System at Millstone Unit 3  
 Letter to NRC, B13808, dated May 31, 1991, Response to Generic Letter 89-13  
 Letter to NRC, B15616, dated March 29, 1996, Response to Generic Letter 89-13  
 MP-ET-3, Revision 000-01, Eddy Current Procedure Nonferromagnetic Tubing  
 NRC Generic Letter 1989-13, Service Water Problems Affecting Safety-Related Equipment  
 Score Sheet to Assess Fouling Potential by Blue Mussels, Revision 0  
 SP-3626.13, Revision 020-03, Service Water Heat Exchangers Fouling Determination

**System Health Reports**

Containment Recirculation Spray System, 3<sup>rd</sup> Quarter 2006  
 Emergency Diesel Generator, 3<sup>rd</sup> Quarter 2006  
 Reactor Component Coolant Water System, 3<sup>rd</sup> Quarter 2006  
 Service Water System, 3<sup>rd</sup> Quarter 2006

**Operability Determinations**

MP3-001-07                      MP3-004-05                      MP3-010-05

**Condition Reports**

04-04036	05-09227	05-06082	05-01284	05-03882	05-07454
05-11120	05-07617	05-06058	05-01767	05-06326	06-06432
05-01233	05-02384	04-05293	05-02716	05-06431	06-12135
05-10929	07-00267	05-01281	05-03771	05-07453	07-00048

**Work Orders**

M3-03-15256	M3-05-06685	M3-05-10743	M3-05-18134
M3-04-06056	M3-05-08757	M3-05-18133	M3-06-13206

**Section 1R11: Licensed Operator Requalification Program**

LORT Cycle 7-1, Revision 1, LORTSE29  
 LORT Cycle 7-1, Revision 0, SO7101



**Section 1R12: Maintenance Effectiveness**

AR 04004332, Long Term Plan to Reduce the Number of Brazed Joints and Minimize Flow Induced Corrosion in the SWS

CR-01-00785, Minor Leak at Brazed Joint in SW Supply Line 3-SWP-003-59-3

CR-02-11761, Service Water System Exceeded its Maintenance Rule Functional Failure Criteria

CR-06-02955, A Visual Examination of the "A" SW Strainer Was Performed in Parallel with its Monthly PM

CR-06-04532, SW Strainer 3SWP\*STR1B Inspection Reveals Total of Five Unsat Welds

CR-06-04560, SW Strainer 3 SWP\*STR1D Inspection Reveals a Number of Unsat Strainer Septum Attachment Welds

CR-06-04931, Request for Engineering Assistance for New Leak Tight Valves on the U3 SW Strainer Blowdown Lines

CR-06-11638, A/C-3 B51 Air Conditioner and A/C-4 B61 Air Conditioner Are Not Working

CR-06-11736, Through Wall Pipe Leak on SW Line to 3CCI\*E1A

CR-06-11789, Multiple As Found Failures in Service Water Strainer M3-SW-STR-1B

CR-06-12135, Leaking Brazed Fitting on Vent Line to 2SWP\*V997

CR-07-00086, 3SWT-STR1B Strainer Basket Found Failed Inside Strainer

CR-07-00107, Need AWO to Weld Repair Strainer Cover Removed from 3SWP\*STR1C

CR-07-00194, MB6B (3-6) Screen Wash Strainer D/P Hi Received After the Screen Wash Pump Stopped

CR-07-01142, 3SWP\*STR1B Failed to Blowdown - Unplanned LCO

CR-07-01170, Service Water Distribution Arms Have Same Stock Code with Different Weld Process

CR-07-01209, 3CCP\*AOV178D Went Closed During Slave Relay Restoration Procedure

CR-6-11755, SWP\*STR1B Inoperable Due to Failure to Blowdown

Fourth Quarter 2006 Health Report for System 3326 - Service Water

M2-02-07874, "A" Service Water Pump Discharge Strainer Motor

M3-06-05204, Service Water Pump Strainer

M3-06-06976, Motor Operator Service Water Pump Strainer

M3-06-12977, Motor Operator Service Water Pump Strainer

M3-07-00785, Motor Operator Service Water Pump Strainer

Maintenance Rule (a)(1) Evaluation for the Service Water System (3326) (piping failures):  
Tracking CR-02-11761

Maintenance Rule (a)(1) Evaluation for the Service Water System (3326) (strainer failures):  
Tracking CR-02-11761

MP-24-FAP710, Revision 001, Maintenance Rule Functional Failures and Evaluations

Unit 3 Maintenance Rule (a)(1) Evaluation for the Service Water System

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

Control Room Logs

CR-07-01756, 3SRW-P5 Would Not Pump Following Draining and Cleaning of 3SRW-Sump 6

CR-07-01831, Unplanned High Reactor Trip Risk due to Transmission Line Outage

Equipment Out of Service Risk Assessment Model

Equipment Out of Service Risk Profile for March 5, 2007

Major Equipment Schedule

MP-13-PRA-FAP01.1, Revision 002-01, Performing (a) (4) Risk Reviews

**Section 1R15: Operability Evaluations**

AOP-2568, Revision 007-03, Reactor Coolant System Leak

AOP-3573, Revision 016, Radiation Monitor Alarm Response

ASME Code Case -513-1, Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1

Calculation 12179-UR(B)-231, Revision 2, Response Time of Containment Gaseous and Particulate Monitors to a Leak of 1. GPM

Calculation 07-ENG-04258M3, Revision 00, Evaluation of Unit 3 Service Water Flaw, Line 3-WP-003-247-3

CR-06-10055, Cu-Ni Lines 3 "-HUD-130 and 3 "-HUD-130

CR-07-00231, Part 21 Issued Against GE SF-1154 (Snubber Fluid)

CR-07-00234, Part 21 Issued Against GE SF-1154 (Snubber Fluid)

CR-07-00704, Unexpected Fuel Pin Conditions Found While Inspecting Fuel Assembly T-35

CR-07-00877, Unplanned TRMAS Entry, TRM 3.1.2.2, 2-CH-512 VCT Make Up Valve Does Not Fully Close

CR-07-00905, Open Items from NRC GSI-191 (Generic Letter 2004-02) Audit

CR-07-00939, Licensing and Design Basis for Replacement ECCS Strainer Regarding LPSI Pump Failure to Stop On SRAS May Be Unclear

CR-07-01379, NRC IEN 2005-24 Provides Operating Experience Which Should Be Reviewed For MP2 and MP3

CR-07-01380, NRC IEN 2005-24 Provides Operating Experience Which Should Be Reviewed For MP2 and MP3

CR-07-01498, Scheduled "B" EDG Isolator Replacement Work Not Completed

CR-07-01532, "A" Emergency Diesel Generator Jacket Water Cooling Chloride Concentration High Out of Specification

CR-07-01640, Update to CR-07-01532, "A" EDG Jacket Water Cooling Chloride Concentration High Out of Specification

CR-07-01821, Unplanned 7RM, Minor Pin Hole Leak of "B" Train Service Water Blowdown Line

CR-07-02187, While Attempting to Tighten Bolts and Clean Boric Acid Found Two Bolts to Not Tighten

DNAP 1408, Revision 2, Operability Determination Process

Dwg 25203-26017, Revision 23, Sheet 3 of 3, Boric Acid System

Letter to John Opeka, Northeast Nuclear Energy Company from NRC dated July 17, 1995 Re: NRC Combined Inspection 50-245/95-20; 50-336/95-20; and 50-423/95-20

Letter to John Opeka, Northeast Nuclear Energy Company from NRC dated March 7, 1994 Re: NRC Inspection Report Nos. 50-245/93-32; 50-336/93-28; and 50-423/93-29

MP-03-002-07, Part 21 Issued on Snubber Fluid Affecting Steam Generator Snubbers at Unit 3

MP-03-003-07, Revision 0, A Crack-like Flaw and Minor Leak Were Found in the Common Blowdown Line for "B" and "D" Service Water Strainers

MP-2-010-06, Non-confirming Service Water Piping to Vital Switchgear Cooling

MP2-002-07, Unexpected Conditions Found During Inspection of Spent Fuel Assembly T-35

MP2-003-07, 2-CH-512 VCT Make Up Valve Does Not Fully Close

MP3-0005-07, 3RSS MOV23B Stripped Bolts

NRC Information Notice 2005-24, Nonconservatism in Leakage Detection Sensitivity

Reasonable Assurance of Continued Operability, MP2-003-07, 2-CH-512 VCT Make Up Valve Does Not Fully Close  
RECO MP3-003-007, A Crack-like Flaw and Minor Leak Were Found in the Common Blowdown Line for the "B" and "D" Service Water Strainers  
Regulatory Guide 1.45, May 1973, Reactor Coolant Pressure Boundary Leakage Detection Systems  
Technical Requirements Manual 3/4.1, Reactivity Control System, 3.1.2.2 Flow Paths-Operating  
Unit 2 Technical Specification 3/4.4.6, August 1, 1975, Reactor Coolant System Leakage  
Unit 3 Technical Specification 3/4.4.6, March 16, 2006, Reactor Coolant System Leakage  
Unit 3 RCS Leakage Detection Trends dated January 31, 2007  
Unit 3 CMS-22 Setpoint Change Surveillance

**Section 1R19: Post-Maintenance Testing**

AWO M3-06-12272, 3FWA\*P2 Minimum Flow Restricting Orifice Repair  
C MP 721A, Revision 1, Installation of Parker CPI and Swagelok Instrument Tube Compression Fittings  
C MP 761B, Revision 004-01, Raychem Low Voltage Splice Kits (EQ)  
C MP 758B, Revision 002-03, Selection, Installation, and Inspection of Terminal Lugs/Splices  
CEN 110, Revision 001, Post Repair/Replacement Leakage Test  
CR-07-01788, Service Water Leak on "A" D/G Service Water Strainer  
CR-07-01857, Current Method for Swapping/Cleaning EDG Service Water Strainer Places an Untested Component in Service on an Operable Header  
DNAP-2000, Revision 6, Dominion Work Management Process  
M2-00-10298, Control Air 2-DG-91A Supply Solenoid Operated Valve Assembly  
M2-01-04718, Control Air 2-DG-95B Supply Solenoid Operated Valve Assembly  
M2-04-00393, "B" Emergency Diesel Governor  
M2-06-09114, "A" Diesel Cooling Heat Exchanger Service Water Inlet Strainer  
M3-03-14188, Quench Spray Pump "A" Cross Connection  
M3-07-01200, Digital Rod Position Indication  
MP-20-WP-GDL40, Revision 009, Pre and Post Maintenance Testing  
OPS Form 2624A-003, Revision 002-01, "A" EDG Train "B" Starting Air Valves IST  
SP-2613K-001, Revision 003-02, Periodic DG Slow Start Operability Test, Facility 1 (Loaded Run)  
SP-2624B, Revision 002-04, "B" Emergency Diesel Generator Auxiliaries Inservice Testing  
SP-2624B-003, Revision 002-01, "B" EDG Train "B" Starting Air Vent Valve IST  
SP-3622.3, Revision 014, TDAFW Pump Operational Readiness Test  
WC2, Revision 007, Tagout Request

**Section 1R20: Refueling and Outage Activities**

CR-07-00873, Flexible Hose Installation Downstream of Valve 3RCS\*V999 Appears to be Non Compliant with the Isometric Drawing  
CR-07-01045, Unplanned LCO Entry  
Dwg. 12179-CP-396703, Revision 3, Sheet 1 of 2, Sample System Piping Containment Structure  
OP-3202, Revision 019, Reactor Startup (IPTE)  
OP-3203, Revision 018-05, Plant Startup

OP-3206, Revision 010-06, Plant Shutdown  
OP-3209A, Revision 007-03, Estimated Critical Condition Data Sheet (Computer Method)  
OP-AA-101, Attachment 2, Revision 1, Operational Decision Making Implementation Action Plan related  
SP-3646A.8, Revision 021-03, Slave Relay Testing - Train A  
Unit 3 Control Room Logs

**Section 1R22: Surveillance Testing**

CEN 110, Revision 001, Post Repair/Replacement Leakage Test  
CR-07-01045, Unplanned LCO  
CR-07-01642, Unexpected Transfer of Water Between BASTS Noted During Surveillance Testing (SP-2601L)  
CR-07-01659, While Replacing the Control Board for M2C509 (Control Room A/C) Discovered That the As Found Program Did Not Match the VTM or DM2-S-0265-96)  
Dwg 25203-26017, Revision 36, Sheet 3 of 3, Boric Acid System  
OP-2346A, Revision 026-05, "A" Emergency Diesel Generator  
OP-2346A-004, Revision 022-03, "A" DG Data Sheet  
OP-2346A-009, Revision 000-01, "A" DG air Roll  
OP-3309, Revision 013-04, Quench Spray  
SP-2601G, Revision 013-02, "A" Charging Pump and Discharge Check, IST  
SP-2601K, Revision 002-02, "B" Charging Pump and Discharge Check IST  
SP-2601L, Revision 000-01, BA Pumps and Discharge Check Valves IST  
SP-2613K, Revision 003-04, Diesel Generator Slow Start Operability Test, Facility 1  
SP-2613K-001, Revision 003-02, Periodic DG Slow Start Operability Test, Facility 1 (Loaded Run)  
SP-2613L, Revision 003-04, Diesel Generator Slow Start Operability Test, Facility 2  
SP-2619G-002, Revision 001-06, TS 3.8.1.1.b - One EDG Inoperable  
SP-2663, Revision 006-00, Venting Charging Pump Suction Stabilizers  
SP-2663-001, Revision 004-00, "A" charging Pump Suction Stabilizer  
SP-2663-002, Revision 000-02, "B" Charging Pump Suction Stabilizer  
SP-2663-003, Revision 000-02, "C" Charging Pump Suction Stabilizer  
SP-2670-004, Revision 001-00, Diesel Generator "A" HX D/P Determination  
SP-3601.1-001, Revision 012, Quench Spray Pump 3QSS\*P3A Operational Readiness Test  
SP-3622.3, Revision 014, TDAFW Pump Operational Readiness Test  
SP-3646A.8, Revision 021-03, Slave Relay Testing-Train A  
Unit 3 Final Safety Analysis Report

**Section 1R23: Temporary Plant Modifications**

CR-03-04234, Control Room Habitability and Station Procedures  
CR-03-08892, Generic Letter 2003-01 Control Room Habitability  
CR-03-08894, Generic Letter 2003-03 Control Room Habitability  
CR-06-11922, RCS In-Leakage to #4 Safety Injection Tank  
CR-07-01111, When #3 SIT Pressure is Lower than #2, Water Transfers Between the Two  
DCM-03-002C, Revision 021-02, Design Engineering Screening Evaluation  
DCM-03-007A, Revision 015-02, Telltale Drain Valve Added to 48" Service Water Enclosure Tube, 3-SWP-048-307-4

M3-06-08329, Service Water System  
MP2-06-009, Revision 0, Temporary Pressure Gage at FT-341 for Monitoring RCS  
Backleakage  
MP3-05-001, Revision 2, Control Building Service Water Enclosure Habitability Seal  
SP-3670.4, Revision 021-05, Routine PMs  
SP-3670.4-002, Revision 014-04, Monthly PMs

**Section 1EP6: Drill Evaluation**

LORT Cycle 7-1, Revision 1, LORTSE29  
LORT Cycle 7-1, Revision 0, SO7101

**Section 2OS1: Access Control to Radiologically Significant Areas**

**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 RWP  
RPM 2.1.2, Revision 2, ALARA Interface with the RWP Process  
RPM 2.4.1, Revision 6, Posting of Radiological Control Areas  
RPM 2.7.1, Revision 4, Entry to Unit 2 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 Set Points

Personnel Contamination Reports:

Nos. 07-00925, 07-00156, 07-00289, 07-00745, 07-01353, 07-01431, 06-11910, 06-12041,  
06-12148, 06-12461, 06-12511, 06-12538, 06-12546, 06-12579

ALARA Council Meeting Notes:

Meetings conducted: 11/07/2006, 11/01/2006, 10/29/2006, 10/28/2006, 10/25/2006,  
10/13/2006, 10/11/2006

Nuclear Oversight Department Field Observation (NODFOB) Reports:

Audit No. 06-08  
NODFOB Nos. 06-072, 07-008, 07-006, 07-010

Post-Job ALARA Reviews:

Unit-3 PASS valve leakage, Investigation and Repair: Evaluation Nos. AE3-07-02/03/04/05

Unit-2 Pressurizer Replacement: Evaluation No. MS2-06-20  
 Unit-2 ECCS Sump Modification: Evaluation No. MS2-06-30  
 Unit-2 Outage Staging: Evaluation No. MS2-06-13

Miscellaneous Reports:

Millstone Station 5-Year Exposure Reduction Plan (2006-2010)

**Section 40A1: Performance Indicator (PI) Verification**

CP-3802E, Revision 001-03, Reactor Coolant Gas Sampling and Analysis  
 CR-06-00866, RCS Leakage (Due to Work on 3CHS\*P3B) Exceeds Tech Spec 6.8.4.A Limit  
 CR-06-10300, Seat/disc Leakage Identified on 3RCS\*V146  
 CR-06-11391, Observed Increase in RCS Identified Leakage Rates  
 Memo FPA-20070015-0-0 dated March 1, 2007 from K. L. Basehore to J. A. Price re: Millstone  
 3 Cycle 11 Failed Fuel Action Plan Implementation  
 Millstone 3 First Quarter through Fourth Quarter 2006 Performance Indicators  
 MP3 PI-PVSQ, MP3 Reactor Coolant System Activity (RCSA)  
 NEI 99-02, Revision 4, Regulatory Assessment Performance Indicator Guidelines  
 Unit 3 RCS Specific Activity (NRC Indicator)

**Section 40A2: Problem Identification & Resolution**

25203-ER-99-1001, Revision 0, ERC MP3 Loss of Ventilation Analyses Results for  
 Maintenance Rule  
 M3-EV-03-0029, Revision 2, Unavailability Monitoring Requirements for NRC Performance  
 Indicator  
 M3-EV-04-0037, Revision 0, SIH Unavailability without Ventilation  
 Maintenance Rule (a)(1), Revision 1, Evaluation for the ESF Building Ventilation (HVQ) System  
 (3314D)  
 Memo MRULE-05-011, Risk Significance Determination for 3HVQIACUS1A/B, 5/25/05  
 MP-13-PRA-FAP01.1, Revision 002-01, Performing (a)(4) Risk Reviews  
 MP-EV-05-0009, Revision 0, Containment Recirculation Spray System (RSS) Pump Motor  
 Bearing Operation at Elevated Temperatures  
 OD MP3-010-06, Small leaks found on the pressure control valves (3SWP\*PV112A1/A2) for  
 3HVQ\*ACUS1A, Revision 0, 6/22/06  
 S&W Dwg 12179-EM-133B, Revision 68, Service Water  
 S&W Dwg 12179-EM-152C, Revision 18, ESF and MSV Buildings Ventilation  
 T-01511S3, Revision 04, MP3 Loss of Ventilation Analysis - RHR/QSS/SI/CCI Equipment Areas  
 T-01511S3, Revision 05, MP3 Loss of Ventilation Analysis - RHR/QSS/SI/CCI Equipment Areas

Condition Reports

04-07801	05-11735	06-04103	06-06939	06-08651	07-00303
05-00143	05-11752	06-04422	06-07008	06-09831	07-00495
05-07540	05-11754	06-04556	06-07293	06-11020	07-01645
05-08603	05-12647	06-04992	06-08368	06-11028	07-02568
05-10244	06-00561	06-05176	06-08448	06-11273	07-10468
05-11408	06-00935	06-06088			

**Section 4OA3: Followup of Events and Notices of Enforcement Discretion**

AOP-3555, Revision 016-02, Reactor Coolant System Leak  
AOP-3573, Revision 015, Radiation Monitor Alarm Response  
CR-07-00873, Flexible Hose Installation Downstream of Valve 3RCS\*V999 Appears to be Non  
Compliant with the Isometric Drawing  
CR-07-01045, Unplanned LCO Entry  
Dwg. 12179-CP-396703, Revision 3, Sheet 1 of 2, Sample System Piping Containment  
Structure  
OP-3202, Revision 019, Reactor Startup (IPTE)  
OP-3203, Revision 018-05, Plant Startup  
OP-3206, Revision 010-06, Plant Shutdown  
OP-3209A, Revision 007-03, Estimated Critical Condition Data Sheet (Computer Method)  
OP-AA-101, Attachment 2, Revision 1, Operational Decision Making Implementation Action  
Plan related to the Increase in Unit 3 Unidentified Leakage Sump Rate of Level Change,  
1/6/07  
SP-3646A.8, Revision 021-03, Slave Relay Testing - Train A  
Unit 3 Control Room Logs

**LIST OF ACRONYMS**

A/C	Air Conditioning
ADAMS	Agency-Wide Document and Management System
ADV	Atmospheric Dump Valve
AFW	Auxiliary Feedwater
ALARA	As Low As Reasonably Achievable
AOP	Abnormal Operating Procedure
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulations
CR	Condition Report
DPW	Declared Pregnant Worker
DRP	Division of Reactor Projects
DRPI	Digital Rod Position Indication
DRS	Division of Reactor Safety
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedure
ESAS	Engineered Safeguards Actuation System
ESF	Engineered Safety Features
°F	Fahrenheit
FSAR	Final Safety Analysis Report
GPM	Gallons per Minute
HPSI	High Pressure Injection
HRA	High Radiation Area
HX	Heat Exchanger
IMC	Inspection Manual Chapter

IST	In-Service Inspection
LER	Licensee Event Report
LHRA	Locked High Radiation Area
MCC	Motor Control Center
MR	Maintenance Rule
MREM	Millerem
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PARS	Publically Available Records
PCR	Personnel Contamination Report
PI	Performance Indicator
PMT	Post-Maintenance Test
PORV	Power Operated Relief Valve
RCA	Radiologically Controlled Area
RCS	Reactor Coolant System
RCSA	Reactor Coolant System Activity
RPCCW	Reactor Plant Component Cooling Water
RSS	Recirculation Spray System
RSST	Reserve Station Service Transformer
RWP	Radiation Work Permit
SDE	Shallow Dose Equivalent
SDP	Significance Determination Process
SSCs	Systems, Structures and Components
SW	Service Water
TDAFWP	Turbine-Driven Auxiliary Feedwater Pump
TEDE	Total Effective Dose Equivalent
TS	Technical Specification
URI	Unresolved Item
VAC	Volts Alternating Current
VHRA	Very High Radiation Area