July 28, 2005

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 UNIT 2 AND UNIT 3 - NRC INTEGRATED INSPECTION REPORT 05000336/2005003 AND 05000423/2005003

Dear Mr. Christian:

On June 30, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed inspections at your Millstone Power Station Unit 2 & Unit 3. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 15, 2005, with Mr. J. Alan Price and other members of your staff.

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

This report documents one NRC-identified finding of very low safety significance (Green). This finding was determined to involve a violation of your license condition. 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 this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Millstone Power Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of 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
Projects Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000336/2005003 and 05000423/2005003
w/Attachment: Supplemental Information

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REGION I

Docket No.:	05000336, 05000423
License No.:	DPR-65, NPF-49
Report No.:	05000336/2005003 and 05000423/2005003
Licensee:	Dominion Nuclear Connecticut, Inc.
Facility:	Millstone Power Station, Unit 2 and Unit 3
Location:	P. O. Box 128 Waterford, CT 06385
Dates:	April 1, 2005 - June 30, 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 K. A. Mangan, Resident Inspector, DRP A. C. Cerne, Consultant, Division of Reactor Safety (DRS) N. T. McNamara, Emergency Preparedness (EP) Inspector, DRS M. C. Modes, Senior Reactor Inspector, DRS T. A. Moslak, Health Physicist, DRS A. E. Passarelli, Reactor Inspector, DRS D. L. Werkheiser, Reactor Inspector, DRS
Accompanied by:	M. L. Heath, Nuclear Safety Professional
Approved by:	Paul G. Krohn, Chief Projects Branch 6 Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000336/2005-003, 05000423/2005-003; 04/01/2005 - 06/30/2005; Millstone Power Station, Unit 2 and Unit 3; Fire Protection.

The report covered a 3-month period of inspection by resident inspectors and announced inspections by regional inspectors. One (Green) NCV 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: Initiating Events

Unit 3

- Green. The inspectors identified a non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area.

  The inspectors determined that the failure to properly evaluate the transient combustibles for fire area MSV-1 was more than minor based on a similar example described in Manual Chapter 0612, "Power Reactor Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, the fire loading exceeded the fire hazard analysis and was not properly evaluated. This finding is associated with the initiating event cornerstone and involves the fire initiator attribute of the cornerstone. The safety significance of the finding was determined to be very low based on the plywood being fire retardant and the increase in fire loading remained significantly less than the maximum allowed by the higher severity classification of “low.” This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of fire areas and permits by the fire brigade or the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years. (Section 1R05)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 2 began this inspection period operating at approximately 100 percent power. On April 7, 2005, the unit reduced power to 85 percent to perform Simmer Testing of main steam safety valves prior to shutting down on April 9, 2005, for Refueling Outage 16. The outage was completed and criticality achieved on May 17, 2005. Low power physics testing was completed and the unit was placed on-line on May 18, 2005. The generator was taken off-line on May 18, 2005, for main turbine overspeed testing and reconnected to the grid the same day. The unit reached 100 percent power on May 21, 2005, and remained at essentially 100 percent power for the remainder of the inspection period.

Unit 3 began this inspection period operating at approximately 100 percent power. An automatic reactor trip occurred on April 17, 2005, due to a failed solid state protection system logic card. The event was investigated, repairs performed, and a reactor startup commenced on April 29, 2005. The reactor was taken critical on April 30, 2005, and the unit placed on-line later the same day. The unit reached 100 percent power on May 1, 2005, however, a Technical Specification downpower to 75 percent power was required due to a control rod position indicator malfunction. The unit returned to 100 percent power on May 3, 2005, and remained 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 - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

Seasonal Site Inspection

The inspectors performed a review of severe weather preparations during the onset of the hurricane season to evaluate the site's readiness for seasonal susceptibilities. The inspectors reviewed Dominion's preparations for severe 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 the Unit 2 and Unit 3 Final Safety Analysis Report (FSAR) and TS and compared the analysis with procedure requirements to ascertain that procedures were consistent with the FSAR. The inspectors performed partial walkdowns of the Unit 2 and Unit 3 intake structures, service water systems, intake structure traveling screens and emergency diesel generators to ascertain the adequacy of protection of equipment from the effects of hurricanes. The inspectors verified that operator actions defined in the adverse weather procedures maintained readiness of essential systems and that

adequate operator staffing was specified. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04 - Three Unit 2 Samples and Three Unit 3 Samples)

a. Inspection Scope

Partial System Walkdowns (71111.04Q)

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 could affect 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 (EDG) during “B” EDG service water maintenance, April 24, 2005;
- Partial equipment alignment of 125VDC during battery maintenance, April 30, 2005;
- Partial equipment alignment of primary makeup water dilution flow path during refueling activities, May 10, 2005.

Unit 3

- Partial equipment alignment of the “A” recirculation spray system (RSS) following “A” RSS heat exchanger cleaning, May 19, 2005;
- Partial equipment alignment of “A” EDG during “B” EDG maintenance, June 7, 2005;
- Partial equipment alignment of “B” EDG following two year overhaul, June 20, 2005.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05 - Six Unit 2 Samples and Six Unit 3 Samples)

Quarterly Sample Review (71111.05Q)

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 those 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

- Containment Building, -22'-6" Elevation (Fire Area C-1);
- Containment Building, -3'-6" Elevation (Fire Area C-2);
- Motor-Driven Auxiliary Feed Pump Pit, Turbine Building, 1'-6" Elevation (Fire Area T-3);
- Steam-Driven Auxiliary Feed Pump Pit, Turbine Building, 1'-6" Elevation (Fire Area T-4);
- East Electrical Penetration Room, Auxiliary Building, 14'-6" Elevation (Fire Area A-10, Zone B);
- East Piping Penetration Room, Auxiliary Building, 5' Elevation (Fire Area A-10, Zone C).

Unit 3

- South Containment Recirculation Cooler Cubicle, 24' Elevation (Fire Area ESF-1, Zone N/A);
- North Containment Recirculation Cooler Cubicle, 24' Elevation (Fire Area ESF-2, Zone N/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);
- Main Steam Valve (MSV) Enclosure, Floor Areas, 41'-0" Elevation (Fire Area MSV-1);
- Normal Switchgear Room, Service Building, 4'-6" Elevation (Fire Area SB-1).

b. Findings

Unit 2

No findings of significance were identified.

Unit 3

Introduction. The inspectors identified a Green non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve (MSV) Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused Dominion to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area. This issue was determined to be of very low safety significance.

Description. During a fire protection walkdown of the MSV enclosure building, the inspectors noted that a fire permit was expired and discussed this with the Duty Fire Brigade Captain. Dominion removed the expired permit and documented the deficiency in the corrective action program.

The inspectors discussed the existing permit with a fire protection engineer with respect to the total fire loading for the area since two piles of plywood in the area appeared to be in excess of the assumed fire loading on the permit. The fire protection engineer walked down the area and determined that the total fire loading on the permit was incorrect. The permit had been in place since April 1999. The fire protection engineer re-evaluated the total amount of fire loading in Fire Area MSV-1, based on the two piles of plywood. The inspectors determined that the revised fire loading exceeded the severity classification stated in the Fire Protection Evaluation Report (FPER) for this area. The fire severity classification in the FPER, for the MSV Enclosure Building is stated as “insignificant” based on a total fire loading of less than 6,500 BTU/ft2. Based on the fire loading added by the two piles of plywood, the final calculated total fire loading increased to approximately 7,100 BTU/ft^2. This caused the fire severity classification for the area to increase to “low” which is defined by the FPER as a fire loading between 6,500 BTU/ft2 and 80,000 BTU/ft^2. Subsequently, this area was added to the fire brigade shiftly roving watch.

Analysis. The performance deficiency was the failure to adequately implement the temporary combustibles permitting process which resulted in Dominion unknowingly exceeding the fire severity classification for the fire area, a deficiency which was reasonably within the licensee’s ability to foresee and correct. The inspectors determined that the plywood had been stored in Fire Area MSV-1 for approximately six years. Traditional enforcement does not apply because there were no actual safety consequences, no impacts on the NRC’s ability to perform its regulatory function, and no willful aspects associated with the issue. The inspectors determined that the failure to properly evaluate transient combustible fire loading for fire area MSV-1 was more than minor based a similar example described in Manual Chapter 0612, "Power Reactor

Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without proper evaluation, exceed the fire severity classification threshold for this area. This finding is associated with the Initiating Event cornerstone and involves the fire initiator attribute of the cornerstone. The inspectors evaluated the significance of the finding in accordance with Inspection Manual Chapter 0609, Appendix F, "Determining Potential Risk Significance of Fire Protection and Post-Fire Safe Shutdown Inspection Findings." The inspectors determined that the degradation rating was low based on the plywood being fire retardant and that the increase in fire loading was near the low end of the allowed band for a “low” fire severity classification. The inspectors determined that the issue minimally impacted the affected area. This finding screened out as having very low safety significance (Green).

This finding was associated with the cross-cutting area of problem identification and resolution. Specifically, Millstone procedure SFP 10, “Fire Prevention Inspections,” requires routine inspections (every 28 days) of fire areas and fire permits by the fire brigade. Additionally, temporary fire permits require yearly reviews for extending the temporary condition. Neither of these processes identified this condition which had existed for approximately six years.

Enforcement. License Condition 2.H to Facility Operating License NPF-49, specifies that Dominion shall implement and maintain in effect all provisions of the approved fire protection program as described in the FSAR and as approved in the Safety Evaluation Report. The FPER identifies the main steam valve enclosure severity classification as insignificant. Contrary to the above, from April 1999 to July 2005, Dominion failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) was a violation of License Condition 2.H to Facility Operating License NPF-49. This violation was associated with an inspection finding that was characterized by the significance determination process as having very low safety significance (Green) and is being treated as a non-cited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee’s corrective action program as CR-05-06990. (**NCV 05000423/2005003-01**)

1R06 Flood Protection Measures (71111.06 - Two Unit 2 Samples and One Unit 3 Sample)

Internal Flooding Inspection (One Unit 2 Sample)

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 enclosed safety-related systems from internal flooding conditions. The inspectors performed a walkdown of the area and reviewed the FSAR as well as 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

- Turbine-Driven Auxiliary Feedwater (TDAFW) Pump Cubicle.

b. Findings

On June 27, 2005, the inspectors identified that a security fence installed across a high-energy line break (HELB) blowout panel located in the TDAFW pump cubicle's ceiling, could impact the function of the blowout panel. The purpose of the blowout panel is to ensure that the allowable pressure and temperature in the TDAFW pump cubicle are not exceeded during a design basis HELB event. On July 7, 2005, Dominion performed a walkdown of the HELB blowout panel area and determined that the blowout panel would impact the fence during a design basis HELB event and that no previous analysis had been documented to support the affects this impact would have on the blowout panel function. Dominion subsequently declared all three auxiliary feedwater pumps inoperable and entered TS 3.7.1.2, Auxiliary Feedwater Pumps. The section of fence obstructing the blowout panel was removed and Dominion exited the TS. Dominion has entered this condition into their corrective action program (CR-05-07367). An Unresolved Item (URI) is being opened pending NRC evaluation of Dominion's corrective actions, past operability analysis, and risk determination, actions that were not completed at the end of the inspection period. **(URI 05000336/2005003-02)**

External Flooding Inspection (One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspectors evaluated Dominion's preparation and protection from the effects of external flooding conditions for Unit 2 and Unit 3. The inspectors reviewed the FSAR and applicable procedures to determine the readiness applicable safety-related structures, systems, and components against external flooding. The inspectors performed walkdowns of the Unit 2 and Unit 3 intake structures to verify the adequacy of the floodgates, flood doors, and temporary equipment and that removable flood planks were able to perform their design function. Additionally, the inspectors reviewed recent Dominion inspection results including floodgate inspections and verified that previously identified deficiencies had been entered into Dominion's corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (71111.08P - Five Unit 2 Samples)

a. Inspection Scope

Inservice and Steam Generator (S/G) inspection activities were reviewed. The radiography of S/G #1 hot leg/small bore/dissimilar metal instrument taps were reviewed. The radiographs were taken in conformance with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements in lieu of the less conclusive ultrasonic test. The radiographs were acceptable. No recordable indications were accepted for continued service during the prior outage and no repairs were available for review. Documents reviewed during the inspection are listed in the Attachment.

The inspector reviewed the supporting Millstone Nondestructive testing procedures, MP-PDI-UT-1, Rev. 000, "PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds", and MP-PDI-UT-2, Rev. 000, "PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds" for compliance with ASME Section XI, Appendix VIII as modified by 10 CFR 50.55a(a)(xv). The inspector observed the calibration of an ultrasonic test system, in conformance with these requirements, on a calibration transfer block after the system had been used to interrogate weld BPD-C-1001. The inspector interviewed the technician and discussed the results of the examination. The examination and calibration were acceptable.

The inspector reviewed Millstone Unit 2 Steam Generator Eddy Current Data Analysis Reference Manual to determine that steam generator tube inspections were performed within the guidance given in the Electric Power Research Institute (EPRI) Pressurized Water Reactor Steam Generator Examination Guidelines. The inspector reviewed Millstone Unit 2 Steam Generator Integrity Degradation Assessment, M2-EV-05-0005, Rev. 0, and Millstone Unit 2 Steam Generator Condition Monitoring and Operational Assessment, M2-EV-03-0049, Rev. 0, to determine the correspondence between the Millstone programs and the EPRI Steam Generator Aging Management Guidelines. The inspector observed the data acquirers keeping status books as required by procedure and keeping track of probe calibration. The inspector also observed the visual examination of the secondary side of the S/G tubes for foreign object identification and removal, and checked some examples of tubes that had been marked for plus point scanning after being associated with a loose part.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspectors observed one sample of Unit 2 licensed operator requalification training on June 7, 2005, and one sample of Unit 3 licensed operator requalifcation training on June 2, 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.

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 the 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

- Unheated Junction Thermocouple PPC Alarm Setpoint Not Restored Following Reduced Inventory (CR-05-06610);
- Design Requirement To Be Able To Trip The Control Element Drive Mechanism (CEDM)/Control Element Assembly (CEA) Following a Loss of Cooling For Less Than 4 Hours Not Proven Through The Existence of a Test Referenced in the FSAR, Section 3.3.3 (CR-05-01483).

Unit 3

- Station Blackout Load Calculation and Procedure Issues (CR-05-06572);
- Water in Motor Terminal Junction Boxes of “B” EDG Fuel Oil Transfer Pumps (CR-05-06063).

b. Findings

Unit 2

On February 18, 2005, CR-05-01483 was written to document that a Unit 2 FSAR statement was incorrect. The FSAR states, “Loss of cooling air will not prevent the CEDM from releasing the CEA if a reactor trip is initiated. Tests have shown that the CEDM is capable of dropping the CEA after four hours of operation in the hold mode without cooling air supply.” Dominion could not find any actual tests or other reference to these tests that demonstrated this design attribute is met. This was discovered when an NRC In-Service Inspection (ISI) inspector requested these tests from Dominion. Operations initially considered this an administrative error. The inspectors discussed this with Operations management and a Reasonable Assurance of Continued Operability was subsequently generated. Followup discussions with Dominion have continued over several months. On June 7, 2005, the inspectors met with Design Engineering to discuss Dominion’s intended course of action. An URI is being opened pending Dominion's demonstration that the design capability can be met absent the test information referenced in the FSAR. **(URI 05000336/2005003-03)**

Unit 3

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13 - Six Unit 2 Samples and Four Unit 3 Samples)

a. Inspection Scope

The inspectors reviewed ten 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 following maintenance and testing activities:

Unit 2

- Shutdown Safety Assessment Checklist dated April 10, 2005;
- Shutdown Safety Assessment Checklist dated April 15, 2005;
- Shutdown Safety Assessment Checklist dated April 25, 2005;
- Shutdown Safety Assessment Checklist dated May 1, 2005;
- Shutdown Safety Assessment Checklist dated May 8, 2005;
- Risk assessment of switchyard work and reactor protection system matrix testing, June 16, 2005.

Unit 3

- Scheduled maintenance and testing for work week beginning May 6, 2005;
- Risk assessment of the TDAFWP and "A" hydrogen recombiner unavailability, May 15, 2005;
- Scheduled maintenance and testing for work week beginning June 13, 2005;
- Scheduled maintenance and testing for work week beginning June 20, 2005.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events (71111.14 - Five Unit 2 Samples and Four Unit 3 Samples)

a. Inspection Scope

The inspectors reviewed nine samples of events 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, TSs, 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 2

- On April 10, 2005, Operations personnel responded to reactor coolant system leakage from the "C" reactor coolant pump (RCP) vapor seal. Health Physics personnel noted water coming from a tell tale pipe which vents the "C" RCP vapor seal area during a containment walkdown. Operators entered abnormal operating procedure (AOP) 2568, Revision 007-01, "Reactor Coolant System Leak", isolated the leak, and exited the procedure.

- On April 20, 2005, Operations personnel responded to a loss of the Card street off-site line due to an offsite brush fire. Dominion was conducting maintenance on a second off-site line and a third line was being threatened by the fire. Dominion took compensatory measures including evacuating personnel from the Unit 3 containment and stopped maintenance in the electrical switchyard. The fire was extinguished and the third offsite line was restored later in the day.

- On April 27, 2005, Operations personnel responded to a loss of the 23 Kilovolt (kV) Flanders Line due to an unknown electrical transient. The control room received a report of a transformer fire on a utility pole behind warehouse #9 within the owner controlled area. Operations entered AOP-2559, Revision 007-

03, “Fire”, and dispatched the fire brigade to the scene. Dominion determined that the transient caused a disconnect fuse to blow on one of the phases of the Flanders line. Repairs were made and the Flanders line was restored.

- On June 15, 2005, fire brigade personnel responded to an electrical fire in a heating ventilation and air conditioning (HVAC) unit on the roof of Building 458, craft assembly building. The Unit 3 control room received the report of fire and made a site-wide announcement. The inspectors observed the fire brigade members using protective clothing and turnout gear. Power was secured to the HVAC unit and the fire was extinguished with a portable water mist extinguisher. The inspectors observed the fire fighting equipment brought to the fire scene and monitored fire fighting directions and communications between the fire brigade leader and members. The HVAC unit was isolated and a reflash watch established. No safety-related equipment was affected.

- On June 24, 2005, Operations personnel responded to a loss of one phase of the 23KV Flanders Line. The operators isolated the line and entered AOP 2508, Revision 000-05, “Loss of 23 KV Off Site Power”. The operators promptly identified lost loads and implemented compensatory actions. Dominion learned that the loss of one phase of the Flanders Line was due to a line problem offsite on Niantic River Road. The line was restored after 1 hour and 45 minutes. Major loads were restored and the AOP was exited. Also, Operations personnel and fire brigade responded to a severely arcing main contactor in a Unit 1 lighting panel. The arcing occurred during the loss of the Flanders Line. Operations personnel identified an abnormal sound from a Unit 1 lighting panel while responding to the loss of the Flanders Line. The area was secured, the Unit 2 control room notified, and the fire brigade mobilized. The electrical source to the lighting panel was isolated without any fire initiation. A fire watch was established and the affected panel safety-tagged out. Operators walked-down other affected areas with no additional issues identified Though the lighting panel is near the Unit 2 control room door, no safety-related equipment was affected.

Unit 3

- On April 20, 2005, Operations personnel responded to a loss of the Card Street offsite line. See Unit 2 for specific details.

- On May 1, 2005, Operations personnel responded to a rod deviation at Unit 3, indicating a misaligned rod. Control Bank D, Rod D12 appeared to drop from 215 steps to 186 steps. Operators declared the control rod inoperable and entered TS 3.1.3.1, Movable Control Assemblies. Operators verified adequate shutdown margin and then entered AOPs for a rod drive system malfunction and rapid downpower and reduced power to less than 75%. Power range high flux setpoints were reduced to 85% and troubleshooting was commenced to realign the control rod and determine what may have caused the rod to drop approximately 29 steps. During the attempt to realign the control rod, and after

operators moved the rod out 5 steps, a rod position indication alarm and one rod bottom annunciator actuated. Operators again entered the AOP for a rod drive system malfunction as well as TS 3.1.3.2, "Position Indicating Systems - Operating," due to the apparent digital rod position indication malfunction. Subsequent troubleshooting in accordance with the AOP identified that one of the two data inputs into the control rod D12 position indication system had failed. Operators selected the remaining data input and the control rod deviation annunciator and other alarms cleared. Operators determined that an encoder card in the “A” data input to the D12 rod control position indication system had failed and that control rod D12 had never actually dropped to 186 steps. The failed card was replaced, applicable TS were exited, power range high setpoints were restored, and power was restored back to 100 percent.

- On May 14, 2005, Operations personnel responded to a “D” RSS pump oil level low-out-of-sight condition. On February 5, 2005, and again on May 14, 2005, operators had written CRs indicating that the “D” RSS pump oil level was indicating high. On May 14, 2005, the Fix-It-Now (FIN) team was requested to drain oil from the reservoir to lower the level within a normal operating range. The FIN team drained approximately one quart, however, there was no corresponding change in gage glass level. The FIN team loosened the oil fill cap and the level dropped out of sight. The FIN team replaced the oil, however, the level remained low out of sight. The FIN team added an additional eight ounces to bring the level back into the normal operating range. Operators declared the “D” RSS pump inoperable and entered TS 3.6.2.2, "Recirculation Spray System." Subsequently, Dominion determined that the fill plug had a hole drilled through it to allow the oil gage glass to be vented. This hole was plugged in the “D” RSS fill cap which caused the erroneous level indication in the gage glass. The “D” RSS pump oil level was restored and operators exited TS 3.6.2.2.

- On June 15, 2005, fire brigade personnel responded to an electrical fire on the roof of Building 458, craft assembly building. See Unit 2 discussion for details.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - Six Unit 2 Samples and Seven Unit 3 Samples)

a. Inspection Scope

The inspectors reviewed eleven 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. In addition, the inspectors reviewed two samples of unique system lineups to assess any operability concerns. The inspectors reviewed compensatory measures to ensure that the measures were in place and were appropriately controlled. The inspectors reviewed Dominion’s performance to ensure all

related TS and FSAR requirements were met. The inspectors reviewed the following degraded, non-conforming conditions, and unique system lineups:

Unit 2

- Enclosure Building Filtration System Charcoal Filter Trays (CR-05-06012);
- Shutdown Cooling System Operability with Single Service Water Header Lineup;
- Unit 2 Offsite Circuits;
- “C” RCP Vapor Seal Leak (CR-05-03251);
- Terry Turbine Steam Trap Level Switch Malfunctioning (CR-05-05517);
- “B” Diesel Generator Operability with Test Gear Installed (CR-05-05660).

Unit 3

- “D” RSS Pump Oil Level Low Out of Sight (CR-05-05370);
- 3SWP*V836 Failed Its Closure Test Surveillance (CR-05-04811);
- “B” Charging/Reactor Plant Closed Cooling Water Area Cooling Unusual Noise (CR-05-05774);
- “A” Safety Injection Accumulator Valve Packing Leakage (CR-05-03811);
- Water Intrusion in “B” EDG Fuel Oil Transfer Pump Motor Connection Box (CR-05-06063);
- Station Blackout Electrical Loading and Charging Pump Cubicle Temperatures (CR-05-06572);
- “B” EDG Inoperable Due To 12.5% Water Content in Rocker Arm Lube Oil (CR-05-06713).

b. Findings

Unit 2

No findings of significance were identified.

Unit 3

The inspectors reviewed Dominion’s response to an abnormal lube oil sample result for the "B" EDG on June 17, 2005. Dominion determined that the main lube oil sump sample and the rocker arm lube oil samples had been swapped. The water was actually in the rocker arm lube oil system. Dominion ran the "B" EDG and took samples and determined that the water content was 12.5 percent water (later confirmatory samples indicated the water content was actually 3.2 percent). Dominion changed out the rocker arm lube oil, re-sampled the oil using a crackle test, and determined that the water content was less than 0.2%. Dominion also removed the rocker arm lube oil covers and conducted a gross leakage inspections while running the "B" EDG for 90 minutes. After determining that there were no gross leakage and changing out the rocker arm lube oil, Dominion declared the "B" EDG operable. However, the inspectors noted that the cause of the leakage was not identified or corrected. Subsequent to this, another rocker arm lube oil sample has been discovered containing 2 percent water content. The

inspectors are opening **URI 05000423/2005003-04** pending Dominion's corrective actions and completion of cause analysis for this issue.

1R17 Permanent Plant Modifications (71111.17A - One Unit 2 Sample)

a. Inspection Scope

The inspectors reviewed one sample of a permanent plant modification on Unit 2. The inspectors performed a walkdown of the area and reviewed the FSAR, licensing and design basis documents, and the engineering disposition. These reviews were conducted to ensure (1) the modified components remained consistent with the assumptions indicated in the design basis documents; (2) that system availability, reliability, and functional capability were maintained; and (3) no unrecognized conditions that significantly affected risk or could place the plant in an unsafe condition were introduced as a result of the modifications. Documents reviewed during the inspection are listed in the Attachment.

Unit 2

- Replace Alternating Current (AC) Regulatory Transformers UAC1, UAC2, UAC3, UAC4, and Transfer Switches RS1 and RS2 (DCR-M2-02009).

b. Findings

No findings of significance were determined.

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

a. Inspection Scope

The inspectors reviewed ten samples of post-maintenance tests (PMTs) 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 post maintenance tests were evaluated:

Unit 2

- "B" Diesel Generator Cylinder Adapter Gaskets Replacement (M2-04-12628);
- 120 Volt Alternating Current (VAC) Non-Vital Transformer UAC1 Replacement (M2-03-08425);
- 120 VAC Non-Vital Transfer Switch RS1 Replacement (M2-03-00418);

- Relocate “B” EDG Heat Exchanger Supply Valve 2-SW-12C (M2-02-04963);
- Replacement of 125 Volt Direct Current (VDC) Breaker Battery Charger DC2 to Battery Bus 201B (M2-99-00859).

Unit 3

- “B” EDG Rocker Arm Lube Oil Drain and Refill (M3-05-09068);
- “B” EDG Power Pill Replacement (M3-04-03788);
- Engineered Safety Feature Self-Contained Air Conditioning Unit Heat Exchanger Inspection (M3-04-09061);
- “B” EDG Two Year Inspections and Maintenance (M3-03-01473);
- Service Water Pump Strainer Six Month Inspection (M3-04-09534).

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20 - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

Unit 2

The inspectors reviewed the Shutdown Risk Review Team Pre-outage Report for the Unit 2 refueling outage, conducted April 9 through May 18, 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.

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

Unit 3

The inspectors reviewed one sample of a forced outage following a Unit 3 reactor trip on April 17, 2005, for compliance to TS requirements and approved procedures, conduct of outage risk evaluations, configuration control, and maintenance of key safety functions. 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:

- Shutdown risk evaluation;
- Startup scheduling;
- Reactor Startup and Criticality;
- Plant Startup;
- Power Ascension.

Additionally, a Special Inspection Team responded to the site to evaluate the cause of the trip, operator response, emergency action level declarations, systems response, and event review. The results of this review are documented separately in Special Inspection Team Report 05000423/2005012.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed ten 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

- Periodic Diesel Generator (DG) Operability Test, Facility 1 (IST) Safety Injection Actuation System (SIAS Start) (SP-2613M);
- Main Steam Safety Valve Simmer Testing (SP-2730B);
- Control Room In-Leakage Verification (SP-21205-002);
- Facility 1 Engineered Safety Feature (SP-2613G-001);

- Containment Leak Test, Type “B” Contained Isolation Valve (CIV) (SP-2605C).

Unit 3

- “D” Service Water Pump Operational Readiness Test (IST) (SP-3626.7);
- Pressurizer Power Operated Relief Valve Block Valve Stroke Testing-Train "A" (SP-3601F.5);
- Containment Pressure Channel Calibration (SP-3447A02);
- “A” Residual Heat Removal Operational Readiness Test (IST) (SP-3610A.1);
- Quench Spray Pump P3A Header Isolation Valve Stroke Time Test (CIV) (SP-3609.9).

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

Unit 2

- Freeze Seal for Shutdown Cooling Control Valve Repair (TM2-04-010)

Unit 3

- “B” EDG Day Tank Temporary Fill Line (TM-03-0001)

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness [EP]

1EP4 Emergency Action Level and Emergency Plan (E-Plan) Changes (71114.04 - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

During the period of April 1 - June 23, 2005, the NRC received and acknowledged the changes made to Millstone's E-Plan in accordance with 10 CFR 50.54(q), which Dominion had determined resulted in no decrease in effectiveness to the E-Plan and to continue to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR 50. The inspector conducted a sampling review of the E-Plan changes which could potentially result in a decrease in effectiveness. This review does not constitute an approval of the changes and, as such, the changes are subject to future NRC inspection. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4, and the applicable requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06 - One Unit 2 Sample and One Unit 3 Sample)

a. Inspection Scope

The inspectors observed one sample of the conduct of a Unit 2 licensed operator simulator training on June 7, 2005. The inspectors evaluated the Operations crew activities related to evaluating the scenario and making proper 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.

The inspectors observed one sample of the conduct of a Unit 3 licensed operator training emergency planning drill on June 2, 2005. The inspectors observed the operating crew performance at the simulator and emergency response organization performance at the site emergency operations center and technical support center. The inspectors verified that the classification, notification, and protective action recommendations were accurate and timely. 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 [OS]

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

a. Inspection Scope

During the period May 9 - 12, 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 (HRAs) and other radiologically controlled areas, and that workers were adhering to these controls when working in these areas during the Unit 2 refueling outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, Unit 2 TSs, and Dominion's procedures. This inspection activity represents completion of five (5) samples relative to this inspection area.

Plant Walkdown and Radiation Work Permit (RWP) Reviews

During the Unit 2 refueling outage, the inspector identified exposure significant work areas in the Unit 2 containment building, auxiliary building, and the fuel handling area. The inspector reviewed radiation survey maps and RWPs associated with these areas to determine if the radiological controls were acceptable.

The inspector performed independent surveys of selected areas in Unit 2, including the containment, auxiliary, and fuel handling buildings, to confirm the accuracy of survey maps, the adequacy of postings, and that locked high radiation areas were properly secured.

In evaluating RWP's, the inspector reviewed electronic dosimeter dose/dose rate set-points 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 RWP's occur. Work activities reviewed included removal of incore instrumentation (ICI) funnel assembly (RWP 317), replacement of temperature element -TE-151 (RWP 209), radiation protection tasks (RWP 201), B-RCP replacement (RWP 337), cavity pit seal replacement (RWP 406), and reactor head activities (RWP 400).

The inspector reviewed the RWPs and associated ALARA Respiratory Protection Evaluations for potential airborne radioactivity areas located in the Unit 2 containment building to determine if engineering controls or respiratory protection was appropriately utilized.

The inspector reviewed Personnel Contamination Reports (PCRs) and the dose assessments, for personnel contamination whose internal dose could potentially exceed 50 mrem, to evaluate the assessment methods.

High Risk Significant, High Dose Rate HRA, and Very High Radiation Areas (VHRA) Controls

The inspector attended the pre-job briefings and reviewed the preparations for retrieving an incore cutter funnel assembly (RWP 317) from the refuel cavity south saddle, placing it in a shielded container, and transferring it to the cask laydown pit.

The inspector verified that VHRA, such as the under vessel hatchway, were properly secured and posted.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

During the period May 9 - 12, 2005, the inspector conducted the following activities to verify that the 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 2 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 seven (7) 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 past trends.

The inspector reviewed the refueling outage work scheduled during the inspection period and the associated work activity exposure estimates. Scheduled work included retrieval of a (high dose rate) incore cutter funnel assembly, reactor cavity draindown and decontamination, replacement of a temperature element on the "A" RCP, and containment demobilization.

The inspector reviewed the ALARA Reviews (AR), ALARA Challenge Board meeting minutes, and Work-In-Progress (WIP) ALARA Evaluations that addressed estimating and controlling dose for specific work activities. Work activities reviewed included reactor vessel head replacement, cavity pit seal installation, installation and removal of scaffolding and insulation in containment, and RCP maintenance tasks.

The inspector reviewed 2R16 dose summary reports, detailing worker estimated and actual exposures, through May 12, 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 head replacement (RWP 400 series, AR 20), cavity pit seal installation (RWP 406, AR 21), and scaffolding installation/removal (RWP 231/331, AR 13).

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 Coordinator, Radiation Protection Manager, and a Support Services supervisor, and reviewing recent ALARA Council meeting minutes and ALARA Challenge Board minutes. The inspector also attended daily outage management meetings, a WIP ALARA review meeting, and pre-job briefings.

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 system components including the shutdown cooling heat exchangers, "A" RCP, and steam generator manways to determine if temporary shielding was appropriately utilized. The inspector reviewed reactor coolant chemistry data to evaluate the effectiveness of source term reduction efforts.

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 2 refueling outage dose projection. The inspector reviewed personnel contamination reports, whole body counting data, and related calculations for internal dose for selected personnel.

The inspector reviewed Dominion's method for adjusting exposure estimates, and replanning work, when actual dose approached the estimated dose. The inspector attended an ALARA Council meeting regarding replacing a damaged temperature element on the "A" RCP and dose overage on RWP 209, and evaluated the exposure controls applied to these tasks. The inspector also interviewed a Site Support Services Supervisor regarding dose challenges in coordinating scaffolding and insulation activities during the outage.

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, incore instrumentation (ICI) funnel cutter assembly removal, and replacement of a temperature element on the "A" RCP. 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. The inspector also interviewed the ALARA Coordinator regarding monitoring the dose distribution of site personnel.

Source Term Reduction and Control

The inspector reviewed the current status and historical trends of the Unit 2 source terms. Through interviews with the Radiation Protection and Chemistry Manager and the ALARA Coordinator, the inspector evaluated Dominion's source term measurements and control strategies. 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 scaffolding removal from containment, preparations for ICI funnel assembly removal, preparations for retrieving a Tri-Nuc filter element, and preparations for replacing a RCP temperature element. 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 CRs, related to radiation worker and radiation protection technician errors, and PCRs 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.

Reactor Vessel Head Replacement Project

The inspector reviewed the radiation protection controls, planning, preparations, and work activities in replacing the Unit 2 reactor vessel head. Included in the review were ALARA planning, job dose estimates and tracking, exposure controls, airborne and contamination controls, radioactive material controls and management, and evaluation of the radiological source term including the presence of hard-to-detect radio-nuclides and transuranics. In performing this evaluation, the inspector reviewed ALARA Challenge Board meeting minutes, ALARA review (AR 20), and related RWP's.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems (71152)

1. Daily Review of Problem Identification and Resolution

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

2. Semi-Annual Trend Review

The inspectors conducted a follow-up review of Dominion's Measuring and Test Equipment (M&TE) program discussed as a low level trend in NRC Inspection Reports 2004006 and 2004008. Noteworthy corrective actions included a new M&TE issue facility and lab, a reduction in the number of issue satellite locations, a reduction in the number of M&TE, institution of a new M&TE tracking program, management and end user training, and a revised M&TE procedure. The inspectors have noted an overall improvement in the M&TE program and this trend review is considered complete.

3. Annual Sample Review (One Unit 2 Sample and One Unit 3 Sample)

Unit 2

a. Inspection Scope

The inspectors completed one Unit 2 sample by selecting CR-04-09083 for detailed review. This CR discussed the potential for violating electrical separation criteria by procedurally allowing a plant configuration that cross-ties Facility 1 to Facility 2 non-vital load centers during Modes 1 through 4 of plant operation. The inspectors reviewed Dominion's engineering analysis, Design Change Notice (DCN) DM2-00-0317-04, which provided the justification for the cross-tied electrical configuration. This DCN was evaluated for the proper application of 10 CFR 50.59 screening criteria, for correct interpretation of the design commitments documented in the Unit 2 FSAR and referenced IEEE Standards, and for the adequacy of corrective actions in revising the appropriate design records to document the analysis and acceptance of the identified electrical configuration deviations. The specific CR and CR history were reviewed to ensure that the full extent of the issue was identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized. The inspectors also evaluated the reports against the requirements of Dominion's corrective action program.

b. Findings

No findings of significance were identified.

Unit 3

a. Inspection Scope

The inspectors completed one Unit 3 sample by selecting CR-04-00639, "Lack of Greasing Requirements for the Motor Bearings on an Emergency Diesel Generator (EDG) Jacket Water Circulating Pump, for detailed review. The specific CR and CR history were reviewed to ensure that the full extent of the issue was identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized. The inspectors also evaluated the reports against the requirements of Dominion's corrective action program.

b. Findings and Observations

No findings of significance were identified. The inspectors confirmed that ongoing Dominion actions included consideration of another CR (i.e., CR-04-01519) regarding over-greasing of motors, as part of the programmatic assessment of the motor greasing program at Millstone Station. Dominion's motor greasing review appeared to be sufficiently progressing toward a comprehensive program assessment. The inspectors noted that the documented corrective actions involved not only a review of the condition of the motor bearings for the like model of jacket water circulation pump in the

redundant EDG train, but also an “extent-of-condition” review of the greasing criteria for motor bearings.

4. Inservice Inspection

a. Inspection Scope

The inspector reviewed a sample of corrective action reports shown in the Attachment, which identified problems related to inservice 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.

5. ALARA Planning and Controls

a. Inspection Scope

The inspector reviewed ten (10) CRs, five (5) Nuclear Oversight Department Field Observation reports, and a Nuclear Oversight Assessment (No. 05-001), relating to maintaining personnel exposure ALARA during the Unit 2 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, TSs, and Dominion’s procedures.

b. Findings

No findings of significance were identified.

6. Cross-References to PI&R Findings Documented Elsewhere

Section 1R05 describes a failure to identify a condition where the FPER fire loading limit for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) had been exceeded and not properly evaluated from April 1999 to July 2005. This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of fire areas and permits by the fire brigade or the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years.

4OA3 Event Followup (71153 - One Unit 3 Sample)

1. (Closed) Licensee Event Report (LER) 05000423/2004001-01, Technical Specification Action Statement Not Met

The inspectors documented a finding associated with the review of LER 05000423/2004001-00 in NRC Integrated Inspection Report 05000423/2004007. Subsequent to the inspectors' review, Dominion issued two additional condition reports in order to revise the stated root cause and to address the additional reactor coolant system dilutions. Dominion also initiated actions to revise the LER and implement additional corrective action to prevent recurrence. The inspectors conducted a review of the revised LER and determined that Dominion had taken appropriate corrective action. This LER is closed.

2. (Closed) LER 05000423/2004002-01, Inoperable Motor-Driven Auxiliary Feedwater Pump Resulting From A Degraded Service Water System Brazed Joint

Revision 00 to LER 0500423/2004002 was inadvertently listed as reviewed and closed in Inspection Report 05000336,423/2005002, however, Revision 01 of the LER was actually reviewed and should have been listed as closed. Revision 01 will be documented as closed in this report.

4OA5 Other Activities

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

a. Inspection Scope

The pressurizer penetration nozzles were examined by direct visual examination supplemented by boroscopic examination. The inspection was performed by a qualified and knowledgeable inspector in accordance with a written procedure. The proficiency of the procedure was not separately demonstrated. The visual examination was capable of identifying deficiencies. The visual examination was capable of identifying pressure boundary leakage as described in the bulletin and pressurizer corrosion. Small boric acid deposits representing reactor coolant system leakage, as described in Bulletin 2004-02 could be identified and characterized. Each nozzle was examined around the entire circumference of each penetration. One pressurizer heater nozzle had a small boric acid deposit and was later repaired with a mensa clamp. The heater sleeve itself had eddy current analysis performed from the inner diameter, and ultrasonic examination of the surrounding base metal was also performed to verify local structural integrity. Liquid penetrant examination was also performed on the heater nozzle. The visual examination of the pressurizer was not blocked by viewing obstructions and there were no significant impediments to the inspection.

a. 1. The eddy current, visual, surface and volumetric examinations were performed by qualified and knowledgeable personnel. The visual examination personnel

were qualified Level II VT-1 inspectors in accordance with Millstone Procedure MP-NDE-5 meeting the requirements of ASME Section XI. The surface examiners were also Level II, as were the volumetric examiners.

a. 2. The examinations were performed in accordance with the station procedures. The eddy current examination was performed in accordance with a procedure that was demonstrated on eddy inside diameter flaws observed by the inspector.

a. 3. The examinations were able to identify, disposition, and resolve deficiencies.

a. 4. The inspections were capable of identifying the leakage in pressurizer penetration nozzle or steam space piping components, as discussed in NRC Bulletin 2004-01.

b. The penetration nozzle and steam space piping components in the pressurizer system were free of debris, insulation, dirt, and boron from other sources. The pressurizer heater penetrations were available for bare metal visual inspection with some difficulty because of the density of 120 penetrations with associated heavy electrical cable attachments. The remaining penetrations were more easily accessible.

c. The visual inspection was conducted by direct observation supplemented, where necessary, with fiber-optic inspection.

d. The coverage was essentially 360° around the circumference of all the nozzles.

e. Small boron deposits, as described in the Bulletin 2004-01, could be, and were identified, characterized, and remediated.

f. During this inspection one additional leaking heater sleeve was identified.

g. There were no major impediments to effective examinations for each of the applied methods.

h. Surface Eddy Current was used to characterize the flaw orientation of leaking heater sleeves. Because remediation was by mechanical nozzle seal assembly, including an anti-ejection attachment, the flaws did not require disposition. Characterization was for informational purposes only.

I. The surface Eddy Current, liquid penetrant, and ultrasonic examinations were appropriate follow-on examinations for the indication of boric acid leaks from heater sleeves in the pressurizer system.

b. Findings

No findings of significance were identified.

2. TI 2515/161 - Transportation of Reactor Control Rod Drives in Type A Packages

a. Inspection Scope

This area was inspected to verify that Dominion's radioactive material transportation program complies with specific requirements of 10 CFR 20, 71, and Department of Transportation regulations contained in 49 CFR 173. The inspector interviewed Dominion personnel and determined that Dominion had undergone refueling/defueling activities between January 1, 2002 and present, but had not packaged and shipped irradiated control rod drives in Department of Transportation Specification 7A Type A packages.

b. Findings

No findings of significance were identified.

3. TI 2515/163, Operational Readiness of Offsite Power

a. Inspection Scope

The inspectors performed Temporary Instruction 2515/163, "Operational Readiness of Offsite Power". The inspectors collected and reviewed Dominion procedures and supporting information pertaining to the offsite power system specifically relating to the areas of offsite power operability, the maintenance rule (10 CFR 50.65), and the station blackout rule (10 CFR 50.63). The inspectors reviewed this data against the requirements of 10 CFR 50.63; 10 CFR 50.65; 10 CFR 50 Appendix A General Design Criterion 17, "Electric Power Systems"; and Plant TSs. This information was forwarded to NRR for further review.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Inservice Inspection Exit Meeting Summary

The inspector presented the inspection results to Mr. Steve Heard, Manager of Nuclear Assessment, and other Dominion management at the conclusion of the inspection on April 26, 2005. Dominion acknowledged the conclusions presented.

Occupational Radiation Safety Exit Meeting Summary

On May 12, 2005, the inspector presented the inspection results to Mr. Skip Jordan, and other members of the Dominion staff, who acknowledged the findings.

TI 2515/161 - Transportation of Reactor Control Rod Drives in Type A Packages Exit Meeting Summary

On June 14, 2005, the inspector discussed the issues contained in TI 2515/161 with Mr. Steven Turowski, Radiation Protection, Technical Services, Supervisor, by telephone. The inspector verified that no proprietary information was provided during the inspection.

Integrated Report Exit Meeting Summary

On July 15, 2005, 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 confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

W. Bartron, Licensing
H. Beeman, Pressurizer Project Manager
P. Calandra, ALARA Coordinator
T. Dagata, Radiation Protection Technician
D. DelCore, Supervisor, Health Physics Operations
C. Dempsey, Manager-Maintenance
D. Dodson, Supervisor-Licensing
L. Donovan, Radiological Engineer ALARA
R. Fuller, ISI Level III
D. Gerber, SG Inspections Project Lead
P. Grossman, Manager-Nuclear Engineering
I. Haas, Acting Supervisor Exposure Control
S. Heard, Manager-Nuclear Oversight
A. Johnson, Supervisor, Radiation Protection Support, (Technical)
A. Jordan, Director, Nuclear Engineering
J. Joswick, Radiation Protection Technician
E. Laine, (Acting) Manager, Radiological Protection & Chemistry
J. Langan, Manager-Site Engineering
F. Matovic, Radiation Protection Technician
R. McIntosh, Licensing
L. O'Donald, Supervisor-Site Support Services
A. Price, Site Vice President - Millstone
D. Regan, Supervisor, Radiation Protection Support (ALARA)
S. Robarge, Brigade Leader
S. Sarver, Director, Nuclear Station Operations & Maintenance
S. Scace, Director, Nuclear Station Safety and Licensing
M. Stark, SG Project Manager
S. Turowski, Supervisor-HP Technical Services
R. Zieber, ISI Coordinator

NRC personnel

J. C. Benjamin, Resident Inspector, Division of Reactor Projects (DRP)
A. C. Cerne, Consultant, Division of Reactor Safety (DRS)
M. L. Heath, Nuclear Safety Professional
S. R. Kennedy, Resident Inspector, DRP
K. A. Mangan, Resident Inspector, DRP
N. T. McNamara, EP Inspector, DRS
M. C. Modes, Senior Reactor Inspector, DRS
T. A. Moslak, Health Physicist, DRS
A. E. Passarelli, Reactor Inspector, DRS

Attachment

S. M. Schneider, Senior Resident Inspector, DRP
D. L. Werkheiser, Reactor Inspector, DRS

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000336/2005003-02	URI	Degradation of TDAFW Pump Cubicle HELB protection function due to installed fence (1R06)
05000336/2005003-03	URI	FSAR statements do not support CEDM design attribute (1R12)
05000423/2005003-04	URI	Failure to formally disposition leakage into "B" EDG rocker arm lube oil system (1R15)

Opened and Closed

05000423/2005003-01	NCV	Failure to evaluate exceeding specified fire loading limit for Main Steam Valve Enclosure (1R05)

Closed

05000423/2004001-01	LER	Technical Specification Action Statement Not Met (4OA3.1)
05000423/2004002-01	LER	Inoperable Motor-Driven Auxiliary Feedwater Pump Resulting From a Degraded Service Water System Brazed Joint (4OA3.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

SP-2615, Revision 006-01, Flood Level Determination
MP-2721C, Revision 7, Protection and Restoration of SW Pump Motor during PMH
MP-2713F, Revision 003-01, Service Water Strainer Maintenance
AOP-3569, Revision 015-02, Severe Weather Conditions
AOP-2560, Revision 010-01, Storms, High Winds and High Tides
COP 200.6, Revision 001-02, Storms and Other Hazardous Phenomena (Prep and Recovery)
SP-2654R, Revision 001-00, Intake Structure Condition Determination
U2 TRM, Section 3.7.5.1, Change 114, Flood Level
U2 FSAR, Section 2.5, Revision 22.4, Hydrology

U2 FSAR, Section 2.4, Geology
U3 TRM, Section 3.7.6, Change 128, Flood Protection

Section 1R04: Equipment Alignment

SP-3606.5, Revision 007, Containment Recirculation Spray System Train "A" Valve Lineup Verification
Drawing 25203-26018, Sheet 5 of 5, Revision 13, Diesel Generators Starting Air
Drawing 25203-26018, Sheet 3 of 5, Revision 21, EDG H-7B Lube Oil, Air, and Jacket Water Cooling
Drawing 25203-30024, Revision 25, 125 VDC Emergency and 120 VAC Vital Systems
Drawing 25203-26030, Sheet 1 of 1, Revision 42, Piping and Instrumentation Diagram Water Treatment System
Dilution Flow Path Tag List
AOP-2505A, Revision 001-04, Loss of Vital 125 VDC Bus 201A
AOP-2505B, Revision 001-02, Loss of Vital 125 VDC Bus 201B
OP-2207, Revision 025-06, Plant Cooldown Procedure
OP-2345C, Revision 018-01, 125 Volt DC Station Battery System
OP-3346A-001, Revision 007, EDG "A", Cooling Water Valve Lineup
OP-3346A-002, Revision 007, EDG "B", Cooling Water Valve Lineup
OP-3346A-003, Revision 006, EDG "A", Lube Oil Valve Lineup
OP-3346A-004, Revision 006, EDG "B", Lube Oil Valve Lineup
OP-3346A-005, Revision 008-01, EDG "A", Starting Air Valve Lineup
OP-3346A-006, Revision 009-01, EDG "B", Starting Air Valve Lineup
OP-3346A-007, Revision 005, EDG "A", Crankcase Vacuum Valve Lineup
OP-3346A-009, Revision 006-01, EDG "A", Instrument Valve Lineup
OP-3346A-011, Revision 009, EDG "A", Electrical Lineup
OP-3346A-012, Revision 011, EDG "B", Electrical Lineup

Section 1R05: Fire Protection

Millstone Unit 2 Fire Hazard Analysis
Millstone Unit 3 Fire Hazard Analysis Plan Drawing
OP-3341C, Revision 16-02, CO_2 Fire Protection System
SFP-26, Revision 002-05, Functional Check of CO_2 Fire Protection System
SFP-17, Revision 002-00, Fire Penetration Seal and Barrier Inspections
SP-3461D.5, Revision 9, Fire Damper Operability Verification
SFP 10, Revision 003-02, Fire Prevention Inspections
NFPA 12, Carbon Dioxide Suppression System , 2000 Edition
Millstone 3 Fire Protection Evaluation Report, Revision 17
MS3 UFSAR
MS3 Technical Requirements Manual
MS3 Fire Hazard Analysis #24
MS3 Fire Hazard Analysis #25
MS3 Fire Hazard Analysis #27
MS3 Fire Hazard Analysis #61

MS3 BTP 9.5-1, Compliance Report
CR-05-06990, Errors Noted on Transient Combustibles Permit
CR-05-06751, Expired Fire Prevention Permit Found In the Field by NRC Inspector
CR-05-07366, Remove Plywood From MSV Bldg El 41'
CR-05-06540, H_2 Meter Found at U3 Battery Room 2 Out-of-Cal
CR-05-06590, CO_2 Tank Has High Pressure Condition
WC 7, Revision 005-01, Attachment 7, Control of Combustible and Flammable Material
DFP-EV-98-0001, Revision 1, Technical Evaluations for Unsealed Penetrations in the Appendix R Fire Barriers Separating Appendix R Areas R-3 and R-12, Millstone Unit 2
DFP-EV-98-0005, Revision 2, Technical Evaluation of the Partial Suppression and Partial Detection in Appendix R Fire Area R-3

Section 1R06: Flood Protection Measures

W2-517-1070-RE, Revision 0, MP2 Internal Flooding Analysis
Regulatory Guide 1.102, Flooding Protection for Nuclear Power Plants
CR-04-07436, Floor Drain Pipe in Overhead of Terry Turbine Is Leaking from Several Places
SP-3665.2, Revision 007-01, Intake Structure Condition Determination
SP-3665.1, Revision 5, Change 1, Flood Level Determination
SP-2615, Revision 006-001, Flood Level Determination
SP-2654R, Revision 001-00, Intake Structure Condition Determination
MS3 FSAR, Revision 22.4
OP-3215, Revision 007, Response to Intake Structure Degraded Conditions
Regulatory Guide 1.102, Revision 1, Flood Protection for Nuclear Power Reactors
MS2 FSAR, Change 56

Section 1R08: Inservice Inspection

Qualification Record of VT Qualified Level II Technician Report
MP-24-BACC-FAP01-001, Revision 000, Millstone Unit 2 Refueling Outage Boric Acid Corrosion Inspections
MP-24-BACC-FAP01, Revision 000, Boric Acid Corrosion Control Outage Inspections
DNAP-1004, Revision 3, Boric Acid Corrosion Control Program, Response to Bulletin 2004-001 Dated July 27, 2004

Section 1R11: Licensed Operator Requalification Program

Unit 2 MP-26-EPI-FAP06-002, Revision 3, Emergency Action Level Tables
NEI 99-02, Revision 2, Regulatory Assessment PI Guideline
Training Group Operator Performance Access Database, Simulator Action Items, Crew A, Subcrew 1, 275 Items dated 6/7/2005
LORT Cycle 05-03, Change 1, Unit 2 Simulator Exam Guide, Loss of Condensor Vacuum ATWS, LOCA, Loss of Feedwater from Full Power, Revision 0

Section 1R12: Maintenance Effectiveness

CR-05-06610, Reduced Inventory Procedure 2218 Requires Temporary Alarm Setpoints for UHJTC's But Does Not Restore Alarm Limits Upon Exiting Reduced Inventory
CR-05-05369, Dozens of Spurious ICC UHJ Alarms Required Removing Same From PPC Scan
CR-05-1483, MNPS-2 FSAR Section 3.3.3.3 Statement Has No Basis
CR-05-06572, MP3 Station Blackout Calculation and Procedure Issues
CR-05-06063, Motor Terminal Connection Box Approximately Half Full of Water
CR-05-06086, 3EGF*P1D Inspection Showed Sign of Water Intrusion in Motor Connection Box
Unit 3 "B" EDG System Engineer's Health Report
RECO MP3-011-05, For CR-05-06572
OD #MP-011-05, For CR-05-06572
SPEC-EE-363, Revision 6, MP3 Station Blackout Safe Shutdown Scenario Document
PA-050-0308E3, Revision 2-1, Station Blackout Diesel Generator Loading
MP-24-MR-FAP730, Revision 000-02, MP3 Maintenance Rule (a)2 Disposition Station Blackout Diesel (3346C) dated 2/16/2005
MP3 Maintenance Rule (a)(1) Evaluation for the SBO Diesel Generator (3346C), Revision 3, dated 5/15/02
Maintenance Rule Unavailability Monitoring Report, Station Black Diesel (3346C) dated 6/28/05
OP2313 D, Revision 007-03, CEDM Cooling System
OD MP2-002-05, Within MP2 FSAR Section 3.3.3.3 Titled "Magnetic Jack Assembly" A Statement is Made "Tests Have Shown That The CEDM is Capable of Dropping the CEA after 4 Hours of Operation in the Hold Mode Without Cooling Air Supply". No Test Can Be Found to Document Such a Statement.
Maintenance Rule Function Scoping Document for System 2302, Control Element Drive
MEPL MP2-CD-1401, Control Element Drive System
MP2 FSAR, Section 3.3.3, Control Element Drive Mechanism
Magnetic Jack Type Control Element Drive Mechanism Design and Test Report dated August 21, 1972
RP-5, Revision 004-01, Operability Determinations
10 CFR 50.65, Maintenance Rule
Maintenance Rule Scoping Table, Emergency Diesel Station Blackout (3346C)
Maintenance Rule Functional Failure Evaluation, dated 6/21/2005: SBO (3346C) and Reactor Plant Ventilation/Aux Bldg Vent (3314A)
System Health Report, 2005 Qtr 2, 3346C SBO Diesel Generator

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Shutdown Safety Assessment Checklist dated April 10, 2005
Shutdown Safety Assessment Checklist dated May 1, 2005
Shutdown Safety Assessment Checklist dated May 8, 2005
OP-2264, Revision 009-06, Conduct of Outages
OP-2264, Revision 009-08, Conduct of Outages
OP-2207, Revision 025-06, Plant Cooldown
Major Equipment Schedule
Equipment Out of Service Quantitative Risk Assessment Tool

MP-20-OM-FAP02.1, Revision 001-03, Shutdown Risk Management
MP-20-WM-FAP2.1, Revision 009-02, Conduct of On-Line Maintenance
MP-13-PRA-FAP01.1, Revision 000, Performing Risk Reviews
CR-05-03570, Inconsistent Application of OP-2264 for RCS Inventory Control and Reactivity Control Safety Functions with "B" HPSI Pump Breaker Racked Down
NUMARC 93-01, Revision 2, Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
Millstone Unit 2 TS L.C.O. 3.3.1.1 and Bases
Millstone Unit 2 System Description SD-52, Revision 2, Reactor Protection System Description

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

SP-2619A-003, Revision 028-10, Control Room Daily Surveillance, Mode 5
TS 3.1.3.1, Movable Control Assemblies
TS 3.1.3.2, Position Indicating Systems Operating
TS 3.6.2.2, Recirculation Spray System
CR-05-04633, Entry into AOP 3552, Malfunction of the Rod Drive System and AOP 3575 Rapid Downpower
CR-05-04660, Event Debrief of Entry into AOP 3552, Malfunction of Rod Drive System and AOP 3575, Rapid Downpower
CR-05-06636, Site Fire Protection Response to a Fire on the Roof of Bldg. 458
CR-05-06912, Loss of One Phase of the 24KV Flanders Line
CR-05-06911, Severe Arcing Observed on Main Contactor in Panel LP-U1_101, After Loss of Flanders Line
RAC-14, Revision 001-06, Non-Emergency Station Events
AOP-2568, Revision 007-01, Reactor Coolant System Leak
AOP 3552, Revision 005-02, Malfunction of the Rod Drive System
AOP 3575, Revision 011, Rapid Downpower
AOP-2559, Revision 007-03, Fire
MS1 Emergency Action Levels
MS2 Emergency Action Levels
MS3 Emergency Action Levels
SFP1, Revision 002-00, Fire Protection Training Program
MP-24-FPP-FAP1.4. Revision 001, Guidance for Fire Fighting Strategies

Section 1R15: Operability Evaluations

CR-05-05370, Unplanned LCO Entry for 3RSS*P1D, Oil Level Out of Sight Low
CR-05-05385, Unvented Plug Found in Lower Bearing Sight Glass for M33RSS*P1C
CR-05-04811, PASS Sample Cooler Check Valve, 3 SWP*V836 Failed Closure Test Surveillance
CR-05-05774, Unusual Noise Coming from 3HVR-FN14B
CR-05-03811, 3SIL*MV8808A Has a Packing Leak of about 1 gpm While Closed With the "A" SI Accumulator Pressurized
CR-05-06012, Many "B" EBFS Charcoal Filter Trays are Misaligned with their Bottom Angle Supports; Material Condition of Tray Strongback Components are Degraded

CR-05-06011, Additional Gaskets Were Required to Seal Four “B” EBFS Charcoal Filter Trays
CR-05-05998, Regulator Has Questioned Extent of Condition Associated with EBFS Charcoal Changout Error
CR-05-05969, Charcoal in L-29B Needs to be Replaced, Desired Material is not Available in Sufficient Quantity
CR-05-06063, Motor Terminal Connection Box Approximately Half Full of Water
CR-05-06086, 3EGF*P1D Inspection Showed Sign of Water Intrusion in Motor Connection Box
CR-05-06572, MP3 Station Blackout Calculation and Procedure Issues
CR-05-00617, Received Hi D/P on HVQ*PDIS47
CR-05-06713, “B” EDG Main Lube Oil Sump Oil Analysis Shows Water Content of 1%
CR-05-06722, Unplanned TSAS Entry to 3.8.1.1 for “B” EDG Inoperable due to 12.5% Water Content in Rocker Arm Lube Oil
CR-05-06849, 3EGS*EGB Rocker Arm Oil Analysis Results Show Elevated Water Content
CR-05-06846, Oil Sampling Procedure for the Unit 3 Diesel Generators Does Not Give Specific Enough Details to Provide a Representative Sample of the Oil
CR-05-07077, According To As Found Conditions In M30509068, #5 Cylinder High Pressure Jumper To Injector Needs to be Changed Out
CR-05-07076, During Post Maintenance Review of Rocker Arm Lube Oil Flush Noted Different Accepting Values in Procedures for Oil Level
CR-05-05517, LS-4590 Terry Turbine Steam Trap Level Switch Malfunctioning
CR-05-03251, “C” RCP Vapor Seal Leaking to -22 CTMT Floor Gutter to CTMT Sump at 0.59 GPM Measured
CR-05-05554, “B” RCP Lower Seal Temperature (T-171) is Reading Higher than Normal
CR-05-05512, Received Annunciator CO-2/3 CA-17" RCP A Bleedoff Flow Lo at 0.99 GPM vs. the Setpoint of 0.759 GPM
CR-05-05660, When Requested to Install Astromed on “A” Diesel Generator found Astromed Installed on “B” Diesel Generator
SP-2613A, Revision 021-04, Diesel Generator Operability Tests, Facility 1
Control Room Logs
Reasonable Expectation of Operability dated 6/14/2005 for OD No. MP3-011-05
OD No. MP3-011-05, Operability Determination for CR-05-06572 dated 6/21/05
10 CFR 50.63, Loss of All AC Power (SBO)
Regulatory Guide 1.155, Station Balckout
Engineering Record Correspondence, 25212-ER-05-0037, Water in Motor Terminal Junction Boxes of 3 EGF*P1B and P1D
AWO M3-98-02413, Safety Injection Accumulator Tank #1 Outlet Isolation Packing Leak
RP-5, Revision 004-01, Operability Determinations
ODMP2-009-05, EBFS Charcoal Trays Out of Alignment with the Rails
ODMP3-007-05, 3 SWP*V836 Failed Closure Test Surveillance
TS 3.6.1.2, Containment Leakage
TS 3.7.9, Auxiliary Building Filter Systems
TRM 3.6.1.2, Secondary Containment Boundary Bypass Leakage Paths
FSAR Chapter 6.2, Containment Systems
ASME Code XI, IST for Category “C” Valves
RECO MP3-008-05, CR-05-05774 Was Initiated As A Result Of An Unusual Noise Emanating From 3HVR*FN14B, Also, 3HVR*FN14B/138 Stopped and 3HVR*FN14A/13A Auto Started Unexpectedly

OP-2310 Maint., Revision 000-05, Shutdown Cooling Support System
OP-3353.EGPB, Revision 003-01, Rocker Arm Lube Oil Level High
CBM 106, Revision 001, Oil Analysis
Unit 2 TSs
Unit 2 Final Safety Analysis Report
Drawing 25203-26008, Sheet 2 of 4, Revision 83, Service Water
Drawing 25203-26008, Sheet 3 of 4, Revision 29, Service Water to Vital AC Switchgear Cooling Coil and AC Chillers

Section 1R17: Permanent Plant Modifications

DCR-M2-02009, Revision 0, Replacement of the Non-Vital 120V Instrument AC Regulating Transformers (UAC1, UAC2, UAC3 and UAC4) and Transfer Switches (RS1 and RS2)
M2-07-13-87000443, 125 VDC/120VAC One-Line Drawing
CR-05-05789, Margin Management Issue 9 - VR11/VR21 Transformer Margin
CR-04-04910, AOP 2504A (loss of VR11) Needs to Be Evaluated To Determine If a Reference to AOP2556 (CEA Malfunctions) Needs to be Added
CR-03-11232, VR11 & VR21 Load Lists in Plant Not Kept Current
CR-02-08013, There is Currently No Design Process to Track Allowable Connected Load on VR11 and VR21. No Margin or Limitations Are Documented
CR-01-07237, DCN DM2-00-0059-00 Added Additional Load to Phase "B" of 120VAC Panel VR11 But Did not Add the Additional Load to the Bus Total Load for the Panel
SD-48, Revision 0, 120 volt AC/125 VDC System Description
PA-079-126-01027E2, Revision 2-06, MP2 EDG Load Calculation
96-ENG-01499E2, Revision 0-07, MP2 120 VAC Vital Bus System - Voltage Drop Calculation
U2 TS, Section 3, Instrumentation
U2 TS, Section 8, Electrical Power Systems
FSAR, Section 8.6, Alternating Current, Instrumentation and Control
ARP-2590F, Revision 007-06, Alarm Response for Control Room Panel, C-08
OP-2345A, Revision 010-06, 120 Volt Non-Vital Instrument AC System
OP-2345B, Revision 016-08, 120 Volt Non-Vital Instrument AC System
U2 Technical Requirements Manual, Change 115
DWG 25203-30024, Revision 26, Simple Line Diagram 125 VDC Energy & 120 VAC Vital System

Section 1R19: Post-Maintenance Testing

MP-20-WP-GDL40, Revision 005-00, Pre and Post Maintenance Testing
DCR-M2-02009, Revision 0, Replacement of the non-vital 120V instrument AC regulating transformers (UAC1, UAC2, UAC3, and UAC4) and transfer switches (RS1 and RS2)
AWO M2-04-12628, Inspect Cylinder Adapter Sealing Faces, Replace Gaskets
AWO M2-03-08425, Replace Transformer UAC1
AWO M2-03-00418, Replace Transfer Switch RS1
AWO M3-05-09069, Rocker Arm Lube Oil Sample Contain 12.5 Percent Water
AWO M3-04-03788, "B" EDG, 2 Year-Power Pill Replacement
AWO M3-04-09061, ESF Air Conditioning Unit Heat Exchanger Inspection

AWO M3-03-01473, M33EDS*EGB PM, 2 Year - “B” D/G Inspection
M3-04-0954, SW Pump Strainer PM, 6 Month - Strainer Inspection, dated 6/9/05
U2 TS, Section 3, Instrumentations
U2 FSAR, Section 8, Electrical Systems
U2 FSAR, Section 8.6, Alternating Current, Instrumentation and Control
CR-03-08749, New Regulating Transformer Failing Acceptance Test
CR-04-01779, Inverter 3/5 Alarms, RS-1 Transfers, UAC-1 Regulation Problems
CR-05-06785, CEN110 Post Repair/Replacement Leakage Test (VT2) not Performed at NOP/Not as required per Drawings/DCN’s
CR-02-02581, Packing Leakage from 2-SW-12C
CR-02-01947, Valve Disk Damaged
CR-03-00469, 2-SW-12C Leaking Past Seat
CR-04-00078, Service Water Leak Discovered on 2-SE-12C
CR-04-10423, 2-SW-12C, Upstream Flange Gasket is Leaking
CR-05-06222, Two Different Types of Cylinder Piston Rings for Diesel
CR-05-07074, MP3720CP-001, Page 12 Has All Main Bearing Caps and Side Wall to Saddle Capscrews checked For Tightness. Not All are Accessible
CR-05-07072, Procedure 3720CP-001 and 372CR-002 Have Conflicting Acceptance Criteria for POP Testing Injectors
CR-04-10535, Brazed Joints on “D” Service Water Strainer DP Isolation are Weeping
MP3720CP, Revision 000, 24 Month EDG Mechanical PM
MP3720CD, Revision 008-10, Slow Speed Start and Run-in of EDG Following Maintenance
U2 TS, Section 3/4.8, Electrical Power Systems
U2 TS, Section 7.1.21, LCO Item “C”, Service Water System Components Operability Requirements and Compensatory Measures
DCN DM2-00-0236-03, Replace Cable to New Transfer Switch RS1
SPROC GTS03-02-01, Revision 001-03, Mag-Amp Regulating Transformers and Transfer Switch Acceptance and Installation Test
SD-48, Revision 0, 120 Volt AC/125 Volt DC Systems
U2 TRM, Section 3/4.8, Electrical Power Systems
CMP 780K, Revision 001-00, GE Type AK-50 and AK-75 Maintenance Overhaul
PT2142B, Revision 002-01, MP2 Type AK Breaker with EC Trip Device Test
EN 31084, Revision 006-02, Operating Strategy for Service Water Systems at Millstone Unit 3
Control Room Logs
Unit 3 FSAR
Unit 3 TS

Section 1R20: Refueling and Outage Activities

OP-2207, Revision 025-05, Plant Cooldown
OP-2202, Revision 020-06, Reactor Startup IPTE
OP-2201, Revision 029-08, Plant Heatup
SPROC OPS03-2-03, Revision 000-03, Vacuum Fill of the Reactor Coolant System (RCS)
OP-2307, Revision 013-00, Low Pressure Safety Injection System
OP-2310Maint, Revision 000-05, Shutdown Cooling Support Systems
OP-2209A, Revision 025-02, Refueling Operations

OP-3202, Revision 018, Reactor Startup
OP-3203, Revision 017-12, Plant Startup
OP-3204, Revision 016-00, At Power Operation
OP-3201, Revision 020-05, Plant Heatup
OP-2264, Revision 009-06, Conduct of Outages
OP-2205, Revision 013-07, Plant Shutdown
OP-2206, Revision 010-09, Reactor Shutdown
SP-2619A, Revision 028-10, Control Room Daily Surveillance, Mode 5
SP-2613M-001, Revision 000-01, Periodic DG Operability Test, Facility 1 (SIAS Start)
SP-2730B, Revision 012-01, Main Steam Safety Valve Testing (IPTE)
Shutdown Safety Assessment dated 4/10/05
Shutdown Safety Assessment dated 5/8/05
Shutdown Safety Assessment dated 5/1/05
AOP-2568, Revision 007-01, RCS Leak
Control Room Logs
2R16 Outage Plan
CR-05-04343, Evaluation of Metal Signs in Containment
CR-05-03129, 2-MS-241 Failed as-found Set Pressure Testing of 2730B
CR-05-03251, "C" RCP Vapor Seal leaking to -22 CTMF Floor Gutter to CTMT Sump at 0.5 gmp measured
CR-05-03252, Iodine 131 increased during RCS Depressurization
CR-05-03527, VCT Outlet Valve failed to close
CR-05-03570, Inconsistent Application of OP-2264 for RCS Inventory Control and Reactivity Control Safety Functions with "B" HPSI Pump Breaker Racked Down Startup Schedule
MP3 Shift Brief #BS3-05-015, CR-05-04493, 3 SIH-F1917 Inaccuracies
TS 3.7.6.1(e), Control Room Emergency Ventilation System

Section 1R22: Surveillance Testing

SP-2613M-001, Revision 000-01, Periodic DG Operability Test, Facility 1 (SIAS Start)
SP-2730B, Revision 012-01, Main Steam Safety Valve Testing
SP-2730B-001, Revision 010-02, Main Steam Safety Valve Testing
SP-21205-002, Revision 004-02, Control Room In-Leakage Verification-Continuous Sampling Method
SP-2613G-001, Revision 007-05, Facility 1 ESF Integrated Test Data Sheet
SP-3626.7-001, Revision 013-04, Service Water Pump 35WP*P1D Operational Readiness Test
SP-3601F-5-007, Revision 000, PORV Block Valve Stroke Testing-Train A
SP-3447A02-001, Revision 004-01, Containment Pressure (Extended Range) Channel Calibration
SP-3610A.1-001, Revision 010-02, 3RHS*P1A, Operational Readiness Test in Mode 1, 2,3, or 4
SP-3609.9, Revision 006-08, Quench Spray Valve Operability
SP-3609.9-003, Revision 003-06, Quench Spray Pump P3A Header Isolation Valve Stroke Time Test
SP-2605C, Revision 014-03, Containment Leak Test, Type "B"
SP-2605C-001, Revision 009-03, Containment Leak Rate Data Collection Sheet
SP-2605D-001, Revision 011-03, Containment Leak Test, Type "C" Data Collection Sheet

TS 3.8.1, AC Sources
TS 4.0.5, Surveillance Requirements for Inservice Inspection and Testing
TS 4.5.2, ECCS Subsystem Surveillance Testing
TS 3.7.4, Service Water System
Unit 3 FSAR, Section 6.2.2, Revision 17.2, Containment Heat Removal System
FSAR Table 6.2-65, Revision 17.3, Containment Penetration
Unit 3 Technical Specification 4.6.3, Containment Isolation Valves
Unit 3 Technical Specification 4.0.5, Limiting Conditions for Operation and Surveillance Requirements
P&ID EM-115A, Revision 33, Quench Spray & H_2 Recombiner

Section 1R23: Temporary Plant Modifications

TM2-04-010, Revision 0, Blind Flanges at 2-SI-439 and Spool Piece at 2-SI-306 Pipe Connections
TM3-03-0001, Revision 1, "B" EDG Day Tank Temporary Fill Line
WC-10-007, Revision 005-03, Temporary Modification
DCM-03, Revision 013-06, Plant Changes
CR-05-06909, Documentation of In-Service Leak Test PMT Could Not be Found following "B" EDG 2 Year Inspection

Section 1EP4: Emergency Action Level and Emergency Plan (E-Plan) Changes

Millstone Emergency Plan and Implementing Procedures

Section 1EP6: Drill Evaluation

Unit 2 MP-26-EPI-FAP06-002, Revision 3, Emergency Action Levels
Unit 3 MP-26-EPI-FAP06-003, Revision 001-03, Emergency Action Levels
CFD-05-01 2005 Unit 3 Training Drill Sequence of Events
NEI 99-02, Revision 2, Regulatory Assessment PI Guideline
Training Group Operator Performance Access Database, "Simulator Action Items", Crew A, Subcrew 1, 275 items dated 6/7/2005
LORT Cycle 05-03, Change 1, Unit 2 Simulator Exam Guide; Loss of Condensor Vacuum, ATWS, LOCA, Loss of Feedwater from Full Power, Revision 0
Emergency Action Level Tables

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 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 7, 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:
05-04503, 05-04287, 05-04026, 05-03851, 05-03550, 05-03380, 05-03309, 05-03305, 05-04657, 05-05101

ALARA Council Meeting Notes:

Meeting conducted on: 05/09/05, 04/25/05, 04/21/05, 04/21/05, 04/20/05, 04/18/05, 04/14/05, 04/07/05

Nuclear Oversight Department Reports

Field Observation Reports dated: 04/07/05, 04/08/05, 04/15/05, 04/20/05, 05/03/05
Nuclear Oversight Assessment No. 05-001, “Millstone Preparation Effectiveness for the Unit 2 Refueling Outage 2R16"

Section 4OA2: Identification and Resolution of Problems

Inservice Inspection
CR-05-04043, Aux fw Pipe Below Code Required Thickness
CR-05-04081, A Number of Alloy 600 Dissimilar Metal Welds
CR-05-04030, NRC Inspector requested an Engineering Disposition

Annual Sample Review
Specification SP-M2–EE-0016, Revision 1, Electrical Separation Specification for Millstone Unit 2
Drawing No. 25203-30001, Revision 20, Main Single Line Diagram
25203-SP-M2-1046, Revision 00, Millstone Unit 2 Appendix R Compliance Report
MP2 Cable Raceway Program
Millstone Unit 2 FSAR, Section 8.4, 480-Volt System
Millstone Unit 2 FSAR, Section 8.7.3.1, Separation
USNRC Safety Guide 6, Independence Between Redundant Standby (Onsite) Power Sources

and Between their Distribution Systems
IEEE Standard 308, Criteria for Class 1E Power Systems for Nuclear Power Generating Stations
IEEE Standard 379, Application of the Single-Failure Criterion to Nuclear Power Generating Station Protection Systems
IEEE Standard 384, Criteria for Separation of Class 1E Equipment and Circuits
AWO M3-04-01006, Replacement of M33EGS*P2B Water Jacket Circulation Pump
AWO M3-05-08456, PM, 1Year - Greasing of Motor Bearings for 3EGS*P2A
AWO M3-05-08457, PM, 1 Year - Greasing of Motor Bearings for 3EGS*P2B
CR-04-01519, Documentation of Over Greasing Issues for Motors at Millstone Station
CR-04-01532, Lack of Grease for Motors Containing Open Face Type Bearings (Unit 3)
CR-04-01544, Lack of Grease for Motors Containing Open Face Type Bearings (Unit 2)

Section 4OA5: Other Activities

Temporary Instruction 2515/160

MP-UT-5, Ultrasonic Examination Procedure for Ultrasonic Straight Beam Measurements - Pressurizer Base Material
Report 900519-0001, NDE Liquid Penetrant Examination
Ultrasonic Exam Data Sheet, Heater Penetration B-2
Dominion/AREVA daily status reports
ECT Exam Data Management Close-out forms
AREVA Operating Instruction for the Foreign Object Tracking System
AREVA Millstone U2R16 Site Information Package
U2-24-SIP-REF01, Revision 003, Unit 2 SG Eddy Current Data Analysis Reference Manual
Millstone Unit 2 R16 SG Integrity Degradation Assessment, 2/24/05
Millstone Unit 2 SG Condition Monitoring and Operational Assessment Refueling Outage 15

Temporary Instruction 2515/163

Convex Operating Instruction #6913 - Millstone ISG
AOP-2580, Revision 003-02, Degraded Voltage
EOP-35ECA-0.0, Revision 019, Loss of All AC Power
EOP-35ECA-0.3, Revision 010, Loss of All AC Power - Recovery with the SBO Diesel
WC12, Revision 004, 345KV Transmission Facilities Outages, NVC
EOP-2530, Revision 9, Station Blackout
Master/Local Control Center Procedure #1, Nuclear Plant Transmission Operations
OP-3260A, Revision 0, Conduct of Outages
MP-13-PRA-FAP01.1, Revision 000, Performing Risk Reviews
MP-20-WM-FAP02.1, Revision 009-02, Conduct of On-Line Maintenance
MP-20-OM-FAP02.1, Revision 001-03, Shutdown Risk Management
MP-14-OPS-GDL600, Revision 001, Plant Status and Configuration Control
CR-04-09302, AOP 2580, “Degraded Voltage” Needs Additional Tech Spec Applicability
CR-04-09304, Recommended Change to Procedure to Add Tech Spec Applicability Guidance on Switchyard Voltage
OP-2264, Revision 009-09, Conduct of Outages

LIST OF ACRONYMS

ALARA	as low as reasonably achievable
AOP	abnormal operating procedure
AR	ALARA reviews
ASME	American Society of Mechanical Engineers
CEA	control element assembly
CEDM	control element drive mechanism
CFR	Code of Federal Regulations
CR	condition report
DCN	design change notice
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EDG	emergency diesel generator
EP	Emergency Preparedness
EPRI	Electric Power Research Institute
E-Plan	Emergency Plan
FIN	Fix-It-Now
FPER	Fire Protection Evaluation Report
FSAR	Final Safety Analysis Report
HELB	high-energy line break
HRA	high radiation area
HVAC	heating ventilation and air conditioning
ICI	incore instrumentation
IMC	Inspection Manual Chapter
ISI	in-service inspection
KV	Kilovolt
M&TE	measuring and test equipment
MR	maintenance rule
MSV	main steam valve
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
PCR	personnel contamination report
PMT	post maintenance test
RCP	reactor coolant pump
RSS	recirculation spray system
RWP	radiation work permits
S/G	steam generator
SDP	significance determination process
TDAFW	turbine-driven auxiliary feedwater
TI	temporary instruction
TS	technical specification
URI	unresolved item
VAC	Volt Alternating Current
VHRA	very high radiation areas
WIP	work-in-progress