

October 27, 2005

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

SUBJECT: MILLSTONE POWER STATION UNIT 3 - NRC SAFETY SYSTEM DESIGN  
AND PERFORMANCE CAPABILITY INSPECTION REPORT  
05000423/2005014

Dear Mr. Christian:

On September 16, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed a safety system and design and performance capability team inspection at your Millstone Power Station Unit 3 facility. The enclosed inspection report documents the inspection findings, which were discussed on September 16, 2005, with Mr. Steven Scace and other members of your staff.

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

Based on the results of the inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Lawrence T. Doerflein, Chief  
Engineering Branch 2  
Division of Reactor Safety

Docket No. 50-423  
License No. NPF-49

Enclosure: NRC Inspection Report 05000423/2005014  
w/Attachment: Supplemental Information

cc w/encl:

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C. L. Funderburk, Director, Nuclear Licensing and Operations Support  
D. W. Dodson, Supervisor, Station Licensing  
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B. Sheehan, Co-Chair, NEAC  
E. Woollacott, Co-Chair, NEAC  
E. Wilds, Director, State of Connecticut SLO Designee  
J. Buckingham, Department of Public Utility Control  
G. Proios, Suffolk County Planning Dept.  
R. Shadis, New England Coalition Staff  
G. Winslow, Citizens Regulatory Commission (CRC)  
S. Comley, We The People  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-423

License No: NPF-49

Report No: 05000423/2005014

Licensee: Dominion Nuclear Connecticut, Inc.

Facility: Millstone Power Station, Unit 3

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

Dates: August 29 to September 2, and September 12 to 16, 2005

Inspectors: M. Modes, Senior Reactor Inspector, Division of Reactor Safety (DRS)  
(Team Leader)  
G. Meyer, Senior Reactor Inspector, DRS  
J. Bobiak, Reactor Inspector, DRS  
S. Lewis, Reactor Inspector, DRS  
K. Young, Reactor Inspector, DRS  
J. Bream, Reactor Inspector, Division of Reactor Projects (DRP)  
(Trainee)  
K. Johnson, Co-op Student Engineer (Trainee)  
H. Anderson, NRC Contractor

Approved by: Lawrence T. Doerflein, Chief  
Engineering Branch 2  
Division of Reactor Safety

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## SUMMARY OF FINDINGS

IR 05000423/2005014; 08/29-09/02/2005 and 09/12-09/16/2005; Millstone Power Station Unit 3; Engineering Team Inspection.

This inspection was conducted by five inspectors from the NRC's Region I office and a NRC contractor. No findings of significance were identified. 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

None

B. Licensee-Identified Violations

None

## REPORT DETAILS

### 1. REACTOR SAFETY

#### **Cornerstones: Mitigating Systems and Barrier Integrity**

#### 1R21 Safety System Design and Performance Capability (SSD&PC) (IP 71111.21)

##### A. Inspection Basis

The NRC team performed an inspection to verify that selected safety systems would achieve their design and performance capability. The team reviewed the licensee's programs for maintaining the capability of the selected safety systems to perform their safety functions. The team also reviewed nonsafety-related structures, systems and components that provide functions required to support the selected system's safety functions.

The team used information derived from the licensee's and NRC's probabilistic risk analysis models to identify systems in the mitigating system and barrier integrity cornerstones making significant contribution to the dominant accident sequences. Specifically, the inspection reviewed the functional requirements and system interactions for the accident sequence: Stuck Open Relief Valve - Block Valve - High Pressure Injection - Direct Injection, taken from the "Risk-Informed Inspection Notebook for Millstone Nuclear Power Station Unit 3 (Revision 1)". The team also considered the results of previous SSD&PC inspections as well as operational experience in selecting the systems and components for review. Based on the above, the team selected portions of the high pressure safety injection (HPSI) system, recirculation spray system (RSS), and the residual heat removal (RHR) system for review.

The inspection included review and examination of support systems, such as electrical power and instrumentation. The team assessed the adequacy of calculations used to support functional requirements, analyses and tests that resulted in confirmation of these requirements, and engineering processes used to support the analysis and tests for normal, abnormal, and accident conditions. Acceptance criteria utilized by the NRC inspection team included NRC regulations, the technical specifications, the Updated Final Safety Analysis Report (UFSAR), and industry codes and standards. The team also assessed the licensee's ability to monitor the system for age-related degradation that could result in the system failing to fulfill its design requirement. A complete list of documents reviewed is included in the attachment to this report.

##### B. System Needs

###### a. Inspection Scope

The NRC team inspected selected attributes of the systems and support systems: Process Medium, Energy Sources, Controls, Operator Actions, and Heat Removal. The team verified the selected attributes met the requirements and design basis

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specifications identified in the UFSAR, technical specifications, licensee commitments, design basis documents, vender technical manuals and plant drawings. A complete list of documents reviewed is included in the attachment.

b. Findings

No findings of significance were identified.

C. System Condition and Capability

a. Inspection Scope

The NRC team inspected the configuration of the selected systems as installed and the operation, design, and testing of the selected systems. The team verified the selected attributes met the requirements and design basis specifications contained in the UFSAR, technical specifications, design basis documents, vender technical manuals, calculations and plant drawings. A complete list of documents reviewed is included in the attachment to this report. The attributes were verified to meet system requirements as described below:

Installed Configuration. The team confirmed the installed configuration of the systems were in agreement with design basis assumptions. For components where the installed configuration was not in agreement with design basis assumptions the team determined there was remediation such as a corrective action, compensatory action, or supporting calculation. The team confirmed the configuration of the systems by walking down accessible portions of the systems. The walkdowns focused on the installation and configuration of piping and instruments; component material condition; licensee identified deficiencies; the susceptibility to environmental impact such as fire or flooding; physical separation of redundant trains; and resilience to seismic events. The team compared their observations of the systems with the design and licensing bases to assure that the system would be capable of functioning during accident conditions. The team evaluated whether the licensee had identified system deficiencies and entered them into the corrective action program.

Operation. The team reviewed operator actions in selected procedures related to the accident sequence to confirm the operators were able to perform the actions called for in the procedure and had access and tools where necessary to accomplish the actions given credit in the design basis. The team reviewed the selected accident sequence by running the sequence on the simulator using various procedures. The team verified that the performance of operations procedures was consistent with the design and licensing basis.

The team reviewed the operating, alarm response, and emergency operating procedures (EOPs) applicable to the power-operated relief valve (PORV), recirculation spray, safety injection, charging, and residual heat removal systems during the evolutions of reactor trip, safety injection, loss of coolant, cold leg recirculation, and post-LOCA cooldown and depressurization. This review addressed the accuracy of the

procedures, consistency with design drawings and UFSAR, and ability to address various component failures and operational errors. The team observed licensed operators during a simulator scenario of their annual requalification examination, in which a PORV stuck open and could not be blocked, to verify that indications, alarms, and procedures supported the prompt identification of the problem and enabled appropriate operator responses.

On the simulator the team evaluated the ability of the EOPs to address various simulated equipment failures and operational errors applicable to a stuck open PORV, high pressure injection failures, and direct injection of the recirculation spray system, including containment sump clogging, inability to rapidly depressurize, pump failures, and improper valve positions. The team also confirmed that sufficient instrumentation existed to monitor automatic system operation and to enable operator responses.

Design. The team reviewed the mechanical, electrical, and instrumentation design of the systems to verify the systems would function as required under design conditions. The review included the design basis, design changes, design assumptions, calculations, boundary conditions, and a review of modifications. Instrumentation was reviewed to verify set points based on the required equipment function. The inspectors performed a number of independent calculations and analyses in several areas to verify the appropriateness of the design values.

Testing. The team reviewed records of selected periodic testing including Inservice Testing (IST), post-maintenance tests and calibration procedures. The team verified the results obtained by system and component testing adequately demonstrated that the systems met operability requirements. The test results were compared against system calculations, drawings, and procedures. Test results were also reviewed to ensure automatic initiations occurred within required times and that testing was consistent with design basis information.

b. Findings

No findings of significance were identified.

D. System Components

a. Inspection Scope

The inspectors selected the HPSI pumps and containment sump instrumentation to ensure equipment at the component level met design requirements. The inspectors inspected the components for degradation, environmental qualification, as-installed configuration and operating experience. The team verified the attributes met the requirements and design basis specifications identified in the UFSAR, technical specifications, design basis documents, venter technical manuals, calculations and plant drawings. A complete list of documents reviewed is included in the attachment to this report.



b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES (OA)**

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team reviewed a sample of system problems that were identified by the licensee and entered into the corrective action program. The team reviewed these issues to verify an appropriate threshold for identifying issues and to evaluate the effectiveness of corrective actions related to design or qualification issues. In addition, condition reports written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problem into the corrective action system. The specific corrective action documents that were sampled and reviewed by the team are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

The lead inspector presented the inspection results on September 16, 2005, to Mr. Steven Scace and other members of the licensee's staff. The inspection team verified this inspection report does not contain proprietary information.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee Personnel

S. E. Scace, Director - Safety and Licensing  
P. E. Grossman, Manager - Nuclear Engineering  
D. A. Aube, Supervisor - Electrical/I&C Systems and Standards  
P. F. L'Heureux, Supervisor - Mechanical Systems and Standards  
W. D. Barton, Licensing  
G. J. Closius, Licensing

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

None

### **LIST OF DOCUMENTS REVIEWED**

#### Calculations

M3-EV-05-0008, Determination of Allowable ECCS Gas Accumulations in Support of Surveillance 4.5.2.b.1, Rev. 1  
MOV8910-1542E3, GL 89-10 MOV Electrical Sizing Calculation, Rev. 1  
NL-033, Millstone 3 Emergency Generator and Starting KVA, Rev. 4  
NL-038, Station Service Study Voltage Profiles, Rev. 3  
NSP-101-RSS, Setpoint For Miniflow Recirc. Line Operation of 3RSS\*MOV38A, B, Rev. 1  
PA89-000-0967 GE, MP-3 MOV Voltage Drop, Rev. 0  
SAE/FSE-C-NEU-0029, Millstone Unit 3 ECCS Testing BL Instruments and Pump Performance Evaluation, Rev. 0  
SEO-SE-52.122, Seismic Electrical Supports, Rev. 0  
SIL-MOV-1387-M3, SIL System and Design Basis Review for Motor Operator Valves, Rev. 0  
SP-3RSS-6, Shut Off Switch for RSS Dewatering Pumps, 3RSS-P2A,B - 3RSS-PS41A,B, Rev. 1  
SP-SIH-2. Safety Injection Line Overpressure Protection Relief Valves - 3SIH\*RV8925A/B, Rev. 0  
SP-SIH-3, 3SIH\*RV8853A/B Safety Injection Pump Discharge Pressure, Rev. 3  
SP-SIH-5, 3SIH\*RV8851 SIH-P1A/B Discharge, Rev. 3  
US(B)-294, NPSH Available for ECCS Pumps, Rev. 0  
US(B)-359, Recirculation Spray Pump Performance, Rev. 0  
12179-P(B)-1001, Heat Loads for the ESF Building Emergency HVAC Systems, Rev. 1  
12179-SP-3RSS-3, RSS-PS43 A/B/C/D Containment Recirculation Pump Low Discharge Pressure Alarm, Rev. 1  
3-ENG-072, Differential Pressure to Flow Rate Conversion Factors for SIH FE's, Rev. 0  
89-094-01668M3, GL 89-10 Program Calculation, MP3 MOV Preventative Maintenance and Periodic Verification Requirements, Rev. 1

89-094-0899ES, Millstone Unit 3 Thurst/Torque Calculation for 3RSS\*MV8837A,  
 3RSS\*MV8837B, 3RSS\*MOV8838A, 3RSS\*MOV8838B, Rev. 7  
 89-094-1012ES, Millstone Unit 3 Target Thrust/Torque Calculation for 3SIL \*MV8809A,  
 3SIL\*MV8809B, Rev. 5

Condition Reports (CR)

CR-02-06533	CR-04-04364	CR-05-04288	CR-05-09294*
CR-03-04692	CR-04-04086	CR-05-04493	CR-05-09655*
CR-03-08776	CR-04-05146	CR-05-05253	CR-05-09681*
CR-03-12470	CR-04-09140	CR-05-05341	CR-05-09224*
CR-04-03225	CR-04-10491	CR-05-05370	CR-05-09721*
CR-04-04072			

The CRs identified with an "\*" were generated as a result of this inspection.

Design Change Notices (DCNs)

DM3-00-0228-03, Replacement of CIVs 3SIHV024 and 3SIHV026, June 16, 2003  
 DM3-00-0235-04, Temporary piping restraints for 3CCIE1A Service Water Piping, August 11,  
 2004  
 DM3-00-0826-97, Modification To Recirculation Spray Header For Loop B & C, June 23, 1997  
 DM3-00-0076-99, RSS Loop Seal Vent Installation Lines 3-RSS-008-55-2 and 3-RSS-008-54-2,  
 February 2, 1999  
 DM3-00-0006-02, Install Cover on MCB Recirculation Array Push Buttons, June 11, 2002  
 DM3-00-1577-97, Spring Pack Replacement for 3SIL\*MV8809A  
 DM3-S-0453-96, Modification required to pipe support 3-RSS-1-PSA012  
 DM3-S-1035-96, 3SIL\*MV8809A&B Replacement Valve Yokes  
 DCR MP3-96-080, Generic Motor Operated Valve (MOV) Yoke Replacements Rev. 00

Drawings

25212-28441-Sh. 3, Logic Diagram - Low Pressure Safety Injection, Rev. 14  
 25212-30348-Sh. 6, Test Loop Diagram Containment Recirculation Spray System Containment  
 Recirculation Pump 3RSS\*P1A Discharge Pressure Indication, Rev. 3  
 25212-30348-Sh. 7, Test Loop Diagram Containment Recirculation Spray System Containment  
 Recirculation Pump 3RSS\*P1B Discharge Pressure Indication, Rev. 3  
 25212-30348-Sh. 34, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1A Discharge Flow Miniflow Valve  
 3RSS\*MOV38A Interlock, Rev. 3  
 25212-30348-Sh. 35, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1B Discharge Flow Miniflow Valve  
 3RSS\*MOV38B Interlock, Rev. 3  
 25212-30348-Sh. 38, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1C, Rev. 3  
 25212-30348-Sh. 39, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1D, Rev. 3

25212-30348-Sh. 41, Test Loop Diagram Containment Recirculation Spray System  
 Containment Structure Sump Narrow Range Level, Rev. 4  
 25212-30348-Sh. 42, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1A Low Discharge Pressures Alarm, Rev. 3  
 25212-30348-Sh. 43, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1B Low Discharge Pressures Alarm, Rev. 3  
 25212-30348-Sh. 44, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1C Low Discharge Pressures Alarm, Rev. 3  
 25212-30348-Sh. 45, Test Loop Diagram Containment Recirculation Spray System  
 Containment Recirculation Pump 3RSS\*P1DA Low Discharge Pressures Alarm, Rev. 3  
 25212-32001-Sh. 5CM, Elem. Diag 4.16KV CNTMT Recirc. Pump (3RSS\*P1A), Rev. 15  
 25212-32001-Sh. 5CP, Elem. Diag 4.16KV CNTMT Recirc. Pump (3RSS\*P1B), Rev. 16  
 25212-32001-Sh. 6, Elem. Diag. 480V MC RHR P1A To Charging PMP VLV (3SIL\*MV8804A),  
 Rev. 15  
 25212-32001-Sh. 6LD, Elem. Diag 480V MC Contmt. Recirc. WTR Spray HDR Iso. VV  
 (3RSS\*MOV20A), Rev. 9  
 25212-32001-Sh. 6LH, Elem. Diag 480V MC Contmt. Recirc. PMP Suct. Iso. VV  
 (3RSS\*MOV23A), Rev. 9  
 25212-32001-Sh. 6LM, Elem. Diag 480V MC, RSS To RHR Cross Connect (3RSS\*MV8837A),  
 Rev. 10  
 25212-32001-Sh. 6LN, Elem. Diag 480V MC, RSS To RHR Cross Connect (3RSS\*MV8838A),  
 Rev. 9  
 25212-32001-Sh. 6LP, Elem. Diag 480V MC, RSS To RHR Cross Connect VV  
 (3RSS\*MV8837B), Rev. 9  
 25212-32001-Sh. 6LQ, Elem. Diag 480V MC, RSS To RHR Cross Connect VV  
 (3RSS\*MV8838B), Rev. 10  
 25212-32001-Sh. 6MX, Elem. Diag 480V MC RWST To RHR P1A Isolation VLV  
 (3RSS\*MV8812A), Rev. 10  
 12179-EE-1A, Main One Line/Phasing Diagram, Rev. 21  
 12179-EE-1L, 4.16 KV One Line Diagram, Bus 34C, Rev. 14  
 12179-EE-1N, 4.16 KV One Line Diagram, Bus 34D, Rev. 11  
 12179-EE-1AH, 480V MCC One Line Diagram, Rev. 41  
 12179-EE-1AJ, 480V MCC One Line Diagram, Rev. 39  
 12179-EE-1AQ, 480V MCC One Line Diagram, Rev. 38  
 12179-EE-9FW, Wiring Diagram 3EHS\*MCC1B3SH.3ESF Bldg., Rev. 12  
 12179-ESK-6LM, Elem Diag 480V MC RSS to RHR Cross Connect (3RSS\*MV8837A), Rev. 10  
 12179-ESK-6LM, Elem Diag 480V MC RSS to RHR Cross Connect (3RSS\*MV8838A), Rev. 9  
 12179-ESK-6MX, Elem Diag 480V MC RWST to RHR P1A Isolation VLV (3SIL\*MV8812A),  
 Rev. 10  
 12179-ESK-6MZ, Elem Diag 480V MC RHR to Cold Leg Isolation VLV (3SIL\*MV8809A), Rev. 16  
 12179-ESK-6NA, Elem Diag 480V MC RHR to Cold Leg Isolation VLV (3SIL\*MV8809B), Rev. 17  
 12179-ESK-6NF, Elem Diag 480V MC RHR P1A to Charging PMP VLV (3SIL\*MV8804A),  
 Rev. 15  
 12179-LSK-24-9.4Q, Logic Diagram Emergency Generator Load Sequence, Rev. 9  
 12179-LSK-27-3H, Logic Diagram Low Pressure Safety Injection, Rev. 16  
 12179-LSK-27-3F, Logic Diagram Low Pressure Safety Injection, Rev. 15  
 12179-LSK-27-11J, Logic Diagram Containment Recirculation, Rev. 10

12179-CI-RSS-502B, Fabrication Installation Control Drawing ASME Section III, Code Class 2, Rev. 04  
12179-3RSS-022B-2, Containment Recirculation Spray System Containment Structure Sump Wide Range Level, Rev. 03  
12179-3RSS-022A-1, Containment Recirculation Spray System Containment Structure Sump Wide Range Level, Rev. 03  
12179-3RSS-022A-2, Containment Recirculation Spray System Containment Structure Sump Wide Range Level, Rev. 04  
12179-3RSS-022B-1, Containment Recirculation Spray System Containment Structure Sump Wide Range Level, Rev. 04

Equipment Qualification Records

EQR 101-0-1, Liquid Level Transmitter, Rev. 1  
EQR 109-0-1, Limit Switch, Rev. 2  
EQR 115-7-1, Containment Recirculation Pump Motor, Rev. 0  
EQR 122-2-6, Motor Operated Valves, Rev. 2  
EQR 122-6-2, Motor Operated Valves, Rev. 2  
EQR 134-1-2, Level/Pressure/Flow Transmitters, Rev. 5  
EQR 134-3-2, Flow Transmitters, Rev. 3

Miscellaneous

DNAP-3002, Dominion Nuclear Operating Experience (OE) Program, Rev. 0  
Millstone Power Station, Unit 3 Safety Function Requirements Manual 25212-MP3-SFR, Rev. 5  
OE List of Assignments, 2003-2005  
OPS Form 3308-6, Electrical Checklist for High Pressure Safety Injection, Rev. 1  
RSS Components (EQ) List  
Risk-Informed Inspection Notebook For Millstone Nuclear Power Station Unit 3, Rev. 1  
System Health Report, Containment Recirculation Spray System - U3, 1<sup>st</sup> Quarter 2005, 2<sup>nd</sup> Quarter 2005  
System Health Reports, High Head Safety Injection, 4<sup>th</sup> Quarter 2004, 1<sup>st</sup> Quarter 2005, 2<sup>nd</sup> Quarter 2005  
System Health Report, Residual Heat Removal (RHR)- U3, 1<sup>st</sup> Quarter 2005, 2<sup>nd</sup> Quarter 2005  
System Health Report, RWST/Containment Spray - U3, 1<sup>st</sup> Quarter 2005, 2<sup>nd</sup> Quarter 2005  
Vendor Technical Manual #25212-001-024, Installation, Operation, and Maintenance of Safety Injection Pumps, Rev. 0  
Vendor Technical Manual #25212-044-001, Installation, Operation and Maintenance of Containment Recirculation Pumps, Rev. 3  
3DBS-NSS-003, Containment Recirculation Spray System, Rev. 1

Piping and Instrumentation Diagrams (P&IDs)

12179-EM-102, Reactor Coolant System, Sheets A - F  
12179-EM-104, Chemical and Volume Control, Sheets A - D  
12179-EM-112, Low Pressure Safety Injection, Sheets A - C  
12179-EM-113, High Pressure Safety Injection, Sheets A - B

12179-EM-115, Quench Spray & H2 Recombiner, Sheet A  
SKM-CMC-SFTINJ, RSS/RHS/QSS/SI/CH System Interface, May 28, 2002

Procedures

C PT 1456, 5KV and 7.2KV Magne-Blast Breaker Tests, Rev. 3  
EOP 35 E-0, Reactor Trip or Safety Injection, Rev. 22-0  
EOP 35 E-1, Loss of Reactor or Secondary Coolant, Rev. 20-0  
EOP 35 ES-1.2, Post LOCA Cooldown and Depressurization, Rev. 14-2  
EOP 35 ES-1.3, Transfer To Cold Leg Recirculation, Rev. 12-0  
EOP 35 ECA-1.1, Loss of Emergency Coolant Recirculation, Rev. 13-2  
EOP 35 FR-C.1, Response to Inadequate Core Cooling, Rev. 14  
EOP 35 FR-C.2, Response to Degraded Core Cooling, Rev. 14-1  
EOP 35 FR-C.3, Response to Saturated Core Conditions, Rev. 5  
IC 3480A01, Foxboro 2AI-BV I/V Converter, Rev. 2  
IC 3483B17, Magnetrol 82 Series Proportional Level Transmitter Calibration, Rev.2  
IC 3484A01, Rosemount Pressure Transmitter Calibration Model 1151, 1152, 1153, and 1154,  
Rev. 007-01  
IC 3492A05, Sigma 1151 Series Indicator, Rev. 2  
MOV 1220, MOV Testing, Rev. 007  
MOV 1201, Limitorque Operator Preventive Maintenance, Rev. 002  
MP-24-BKR-REF01s1, Unit 3 Breakers and Starters, Rev. 001-01  
MP-24-MOV-PRG, Control Logic and Wiring Design Basis Review PI-5  
MP-24-MR-GDL650, Systems Engineer's Quarterly System Health Reports, Rev. 006  
OP 3272, EOP User's Guide, Rev. 8-4  
OP 3304A, Charging and Letdown, Rev. 29-3  
OP 3306, Containment Recirculation Spray System, Rev. 8-3  
OP 3308, High Pressure Safety Injection, Rev. 011-03  
OP 3309, Quench Spray, Rev. 13-3  
OP 3310A, Residual Heat Removal System, Rev. 16-4  
OP 3343, Station Electrical Service 4.16KV, Rev. 013-05  
OP 3353.MB4A, Main Board 4A Annunciator Response, Rev 2-11  
OP 3353.MB4B, Main Board 4B Annunciator Response, Rev 4-4

Procedures (Surveillance)

SP 3447B01, Containment Sump Wide Range Level Channel Calibration, Rev. 005-03  
SP 3447E11, Safety Injection Accumulator Level and Pressure Analog Channel Operational  
Test, Rev. 5  
SP 3448E51, Diesel Sequencer Train A Actuation Timer Test, Rev. 5  
SP 3448E52, Diesel Sequencer Train B Actuation Timer Test, Rev. 4  
SP 3451B03, RWST Level Switch and Pump Interlock Channel Calibration, Rev. 7-2  
SP 3451B04, RWST Level Switch and Pump Interlock Channel Calibration, Rev. 4-2  
SP 3601B.2, RCS Vent Path Operability Check, Rev. 8-6  
SP 3601F.5, Reactor Coolant Valve Operability, Rev. 9-4  
SP 3606.1, Containment Recirculation Pump 3RSS\*P1A Operational Readiness Test,  
Rev. 014-06

- SP 3606.1-1, Containment Recirculation Pump 3RSS\*P1A Operational Readiness Test in Mode 5, 6, or 0, Rev. 013-05
- SP 3606.1-6, Post Maintenance Retest of Containment Recirculation Pump 3RSS\*P1A in Mode 1, 2, 3, or 4, Rev. 000-04
- SP 3606.2, Containment Recirculation Pump 3RSS\*P1B Operational Readiness Test, Rev. 013-05, Rev. 013-05
- SP 3606.2-1, Containment Recirculation Pump 3RSS\*P1B Operational Readiness Test in Mode 5, 6, or 0, Rev. 011-05
- SP 3606.2-6, Post Maintenance Retest of Containment Recirculation Pump 3RSS\*P1B in Mode 1, 2, 3, or 4, Rev. 000-04
- SP 3606.3, Containment Recirculation Pump 3RSS\*P1C Operational Readiness Test, Rev. 015-05
- SP 3606.3-1, Containment Recirculation Pump 3RSS\*P1C Operational Readiness Test, Rev. 014-05
- SP 3606.4, Containment Recirculation Pump 3RSS\*P1D Operational Readiness Test, Rev. 013-05
- SP 3606.4-1, Containment Recirculation Pump 3RSS\*P1D Operational Readiness Test, Rev. 011-05
- SP 3606.5, Containment Recirculation Spray System Train A Valve Lineup and Loop Seal Verification, Rev. 004-01
- SP 3606.6, Containment Recirculation Spray System Train B Valve Lineup and Loop Seal Verification, Rev. 004-01
- SP 3606.8, Recirculation Spray Valve Operability Train A, Rev. 009-03
- SP 3606.8-1, RSS Valve Stroke Time Test Train A, Rev. 012
- SP 3606.8-3, Post Maintenance Retest of 3RSS\*MV8837A, Rev. 000-01
- SP 3606.8-4, Post Maintenance Retest of 3RSS\*MV8838A, Rev. 000
- SP 3606.9, Recirculation Spray Valve Operability Train B, Rev. 009-01
- SP 3606.9-1, RSS Valve Stroke Time Test Train B, Rev. 012
- SP 3608.1, Safety Injection Pump 'A' Operational Readiness Test, Rev. 010-02
- SP 3608.2, Safety Injection Pump 'B' Operational Readiness Test, Rev. 009-03
- SP 3608.4, High Pressure Safety Injection System Vent and Valve Lineup Verification, Rev. 004-01
- SP 3608.6, Safety Injection System Valve Operability Test, Rev. 013-06
- SP 3610B.2, Low Pressure Safety Injection Valve Operability Test – Train A, Rev. 013-07
- SP 3610B.3, Low Pressure Safety Injection Valve Operability Test – Train B, Rev. 012-09
- SP 3447B01, Containment Sump Wide Range Level Calibration, Rev. 005-03
- SP 3646A.8, Slave Relay Testing - Train A, Rev. 020-02

Procedures (Completed Surveillances)

- SP 3451B03-1, RWST Level Switch and RHR Pump Interlock Channel Calibration, Rev. 7; Completed December 9, 2002, January 28, 2004, and September 7, 2005
- SP 3451B04-1, RWST Level Switch and RHR Pump Interlock Channel Calibration, Rev. 4; Completed August 29, 2001, January 15, 2003, and August 27, 2004
- SP 3601B.2-2, PORV Stroke Time Operability, Rev. 7; Completed April 3, 2004, May 3, 2004, and April 18, 23, and 27, 2005

- SP 3601F.5-7, PORV Block Valve Stroke Testing - Train A, Rev. 0; Completed June 13, 2005 and September 5, 2005
- SP 3601F.5-8, PORV Block Valve Stroke Testing - Train B, Rev. 4; Completed December 26, 2004, March 20, 2005, and June 27, 2005
- SP 3606.5-001, Containment Recirculation Spray System Train A Valve Lineup Verification, Rev. 007
- SP 3606.5-002, Containment Recirculation Spray System Train A Loop Seal Verification and Gas Void Volume Determination, Rev. 001-01
- SP 3606.1-001, Containment Recirculation Pump 3RSS\*P1A Operational Readiness Test in Mode 5, 6, or 0, Rev. 13, Completed September 22, 2002, April 17, 2004, and April 20, 2004
- SP 3606.2-001, Containment Recirculation Pump 3RSS\*P1B Operational Readiness Test in Mode 5, 6, or 0, Rev. 11, Completed September 17, 2002, and April 24, 2004
- SP 3606.3-001, Containment Recirculation Pump 3RSS\*P1C Operational Readiness Test in Mode 5, 6, or 0, Rev. 14, Completed September 22, 2002, and April 19, 2004
- SP 3606.4-001, Containment Recirculation Pump 3RSS\*P1D Operational Readiness Test in Mode 5, 6, or 0, Rev. 11, Completed September 17, 2002, and April 24, 2004
- SP 3606.4-001, IST Pump Test Plan, Completed October 23, 2000, May, 18 2004, June 22, 2004, and August 31, 2004
- SP 3606.8-001, RSS Valve Stroke Time Test - Train A, Rev. 12, Completed May 18, 2005, and July 14, 2005
- SP 3606.9-001, RSS Valve Stroke Time Test - Train B, Rev. 12, Completed March 10, 2005, and June 1, 2005
- SP 3608.1-001, Safety Injection Pump 'A' Operational Readiness Test, Rev. 008-02, Completed June 21, 2005
- SP 3608.2-001, Safety Injection Pump 'B' Operational Readiness Test, Rev. 009-02, Completed August 03, 2005
- SP 3608.6-001, Safety Injection Valve Stroke Testing, Rev. 010-04, Completed September 12, 2002, April 25, 2004, and July 10, 2005
- SP 3608.6-3, Cold Shutdown Safety Injection Valve Stroke Testing, Rev. 7, Completed April 27, 2004
- SP 3610B.2-001, Low Pressure Safety Injection Valve Stroke Timing, Rev. 11; Completed March 23, 2005, June 15, 2005, and September 7, 2005
- SP 3610B.2-007, SIL Valve Stroke Time Test (Cold Shutdown) – Train A, Completed September 16, 2002 and April 16, 2004
- SP 3610B.3-001, SIL Valve Stroke Time Test, Rev. 11; Completed May 4, 2005 and July 27, 2005
- SP 3610B.3-005, SIL Valve Stroke Time Test (Cold Shutdown) – Train B, Completed September 21, 2002 and April 13, 2004
- SP 3646A.17-001, Train A ESF With LOP Test, Rev. 15, Completed September 13, 2002, and April 25, 2004
- SP 3646A.18-001, Train B ESF With LOP Test, Rev. 15, Completed September 25, 2002, and April 13, 2004



Specifications (Electrical)

M3-SP-EE-011, Millstone Technical Data Book - Control of DC Calculation References, Rev. 1

SP-M3-EE-269, Electrical Design Criteria, Rev. 3

SP-M3-EE-0321, Control of Electrical Set Points, Rev. 2

Work Orders

M3 97 13469	M3 01 01786	M3 02 04132	M3 02 11573	M3 03 10767
M3 99 16824	M3 01 02419	M3 02 04060	M3 02 11736	M3 03 11715
M3 00 04389	M3 01 03128	M3 02 04175	M3 02 12686	M3 03 12083
M3 00 06003	M3 01 03129	M3 02 04177	M3 02 12687	M3 03 12084
M3 00 06004	M3 01 04609	M3 02 04888	M3 02 13355	M3 03 12827
M3 00 07326	M3 01 14126	M3 02 07027	M3 02 14258	M3 03 12832
M3 00 18112	M3 01 14782	M3 02 08120	M3 02 17484	M3 03 14264
M3 00 18116	M3 01 18286	M3 02 09908	M3 02 17485	M3 04 06300
M3 00 18118	M3 02 01809	M3 02 11265	M3 02 17613	M3 05 03116
M3 00 18119	M3 02 04030	M3 02 11266	M3 02 17614	
M3 00 20894	M3 02 04131	M3 02 11572	M3 02 18518	

**LIST OF ACRONYMS**

ADAMS	Agencywide Documents Access and Management System
CR	Condition Report
EOP	Emergency Operating Procedure
HPSI	High Pressure Safety Injection
IST	Inservice Testing
PORV	Power Operated Relief Valve
NRC	Nuclear Regulatory Commission
RHR	Residual Heat Removal
RSS	Recirculation Spray System
SSD&PC	Safety System Design and Performance Capability
UFSAR	Updated Final Safety Analysis Report