

September 19, 2003

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 INSPECTION REPORT
05000423/2003008

Dear Mr. Christian:

On August 14, 2003, the U. S. Nuclear Regulatory Commission (NRC) completed an engineering team inspection at Millstone Power Station Unit 3. The enclosed report presents the results of that inspection, which were discussed at an exit meeting on August 14, 2003, with Mr. J. Alan Price and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety, and compliance with the Commission's rules and regulations and with the conditions of your license. The inspection consisted of system walkdowns; examination of selected procedures, drawings, modifications, calculations, surveillance tests and maintenance records; and interviews with station personnel.

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

In accordance with 10 CFR 2.790 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 Web-site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Lawrence T. Doerflein, Chief
Systems Branch
Division of Reactor Safety

Docket Nos.: 50-423
License Nos.: NPF-49

Enclosure: Inspection Report 05000423/2003008
w/Attachment: Supplemental Information

Mr. David A. Christian

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cc w/encl:

J. A. Price, Site Vice President - Millstone
C. L. Funderburk, Director, Nuclear Licensing and Operations Support
D. W. Dodson, Acting Manager - Licensing
L. M. Cuoco, Senior Counsel
V. Juliano, Waterford Library
S. Comley, We The People
J. Buckingham, Department of Public Utility Control
E. Wilds, Director, State of Connecticut SLO Designee
First Selectmen, Town of Waterford
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R. Bassilakis, CAN
J. M. Block, Attorney, CAN
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G. Winslow, Citizens Regulatory Commission (CRC)
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Mr. David A. Christian

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DATE	08/28/03		08/28/03		09/18/03		

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket/Report No: 05000423/2003008

License No: NPF-49

Licensee: Dominion Nuclear Connecticut, Inc.

Facility: Millstone Power Station, Unit 3

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

Dates: July 28 - August 1 and August 11-14, 2003

Inspectors: P. Kaufman, Senior Reactor Inspector, DRS (Team Leader)
S. Pindale, Senior Reactor Inspector, DRS
A. Della Greca, Senior Reactor Inspector, DRS
T. Burns, Reactor Inspector, DRS
G. Bowman, Reactor Inspector, DRS
P. Torres, Reactor Inspector, DRS
H. Anderson, NRC Contractor
Y. Kim, Engineering Co-Op Student, Observer

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

Enclosure

SUMMARY OF FINDINGS

IR 05000423/2003-008; on 7/28 - 8/14/2003; Millstone Power Station, Unit 3; engineering team inspection.

This inspection was conducted by six Region I inspectors and one 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

No findings of significance were identified.

B. Licensee-Identified Violations

None

Report Details

1. REACTOR SAFETY

Cornerstones: Mitigating Systems and Barrier Integrity

1R21 Safety System Design and Performance Capability (IP 71111.21)

a. Inspection Scope

The inspectors selected the auxiliary feedwater and emergency diesel generator systems for its review of the design and performance capability of safety systems at Millstone Power Station Unit 3. The systems were selected because of their risk significance in mitigating systems and barrier integrity. The inspection procedure used for this effort was IP 71111, Attachment 21.

The inspectors reviewed design and licensing basis documents for the auxiliary feedwater and emergency diesel generator systems to determine the system and component functional requirements during normal operation and accident mitigation. The design and licensing documents reviewed for the systems included the Updated Final Safety Analysis Report (UFSAR), the plant Technical Specifications (TS), and the design basis document for each system. In addition, the inspectors reviewed component vendor manuals, engineering analyses and calculations, equipment qualification records, instrument setpoints, plant procedures, system modifications, piping and instrument drawings, electrical schematics, instrumentation and control drawings and logic diagrams. The inspectors also reviewed selected portions of documents for interfacing and support systems such as service water, jacket cooling water, intercoolant, air start, and normal and emergency ventilation systems.

The inspectors selected several major risk significant components within the auxiliary feedwater and emergency diesel generator systems for in-depth inspection. The components included the one turbine driven and two motor driven auxiliary feedwater pumps, the demineralized water storage tank (DWST), the condensate storage tank (CST), flow venturis, and several motor-operated valves. The inspectors reviewed this equipment to ensure availability, reliability, and functional capability had been maintained.

For selected calculations and analysis, the inspectors reviewed the design basis functional requirements and assumptions to verify that they were appropriate and agreed with the current plant configuration, that proper engineering methods and models were used, and that there were adequate technical bases to support the conclusions. When appropriate, the inspectors performed independent calculations to evaluate the adequacy of the document. Additionally, the inspectors reviewed the licensee's evaluations of generic communications, such as NRC Information Notices, that pertained to the components or system operation.

In reviewing modifications, the inspectors assessed the ability of the systems selected to perform their design functions, assuring that the changes did not adversely affect the

Enclosure

system operation and/or design and licensing bases. The inspectors reviewed design change request packages including reviews and approvals, 10CFR50.59 screening and evaluations, design descriptions, applicability determinations, environmental impact screening, UFSAR change requests, interdisciplinary reviews, independent reviewer evaluations, and related change drawings. The inspectors verified the adequacy of supporting engineering documents and post modification testing for selected modifications. During plant walkdowns, the inspectors observed the material condition of the systems selected to verify that equipment and component degradation was being adequately addressed and resolved, and that the systems were installed and configured consistent with design drawings.

The inspectors reviewed selected normal operating procedures and surveillance procedures and test results to verify that the auxiliary feedwater and emergency diesel generator systems were being operated, maintained, and tested in accordance with design and licensing requirements. Work orders, system health reports, and corrective actions taken to upgrade the system equipment, valves and control components, were reviewed. In addition, the inspectors reviewed abnormal and emergency procedures for the systems to determine whether they were consistent with system design and licensing bases and operating assumptions. The inspectors also reviewed the system interfaces (instrumentation, controls and alarms) available to operators to ensure that appropriate information was available to operators to support operator decision making. Operator actions associated with initiating, monitoring, controlling and shutting down the selected systems, including associated support systems were reviewed. In particular, the inspectors verified that the required manual operator actions for transient and accident conditions could be accomplished as assumed by analysis and in accordance with approved station procedures.

The inspectors reviewed the adequacy of the licensee's implementation of the in-service test (IST) program for pumps and valves in the auxiliary feedwater and emergency diesel generator systems and supporting systems. The review included applicable surveillance test procedures and focused on the ability of these systems to provide emergency cooling to the core during design basis accident conditions. Acceptance criteria included in the pump tests to satisfy the licensing and design basis conditions were reviewed. IST results for the Turbine-Driven Auxiliary Feedwater (TDFW) and Motor-Driven Auxiliary Feedwater (MDFW) pumps were reviewed to verify the ability of each pump to develop the required pressure head. The inspectors also reviewed IST procedures and test results for selected motor-operated, air-operated, check, and relief valves with regard, as applicable, to actuator and valve type; normal, safety, and fail positions; system location; valve class, category, and size; and test frequency.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems (IP 71152)

a. Inspection Scope

The inspectors reviewed the licensee's activities associated with the identification and resolution of problems associated with the auxiliary feedwater and emergency diesel generator systems. The inspectors conducted system walkdowns, reviewed work orders, plant modifications, operating experience reports, system health reports, audits and surveillance reports to assess the licensee's adequacy of identifying problems. The inspectors reviewed a sample of condition reports (CRs) associated with these systems to assess the scope of identified problems and to evaluate the adequacy and timeliness of the corrective actions resulting from the identified problems.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On August 14, 2003, the inspectors presented the results of the inspection to Mr. J. Alan Price and other members of the Millstone Unit 3 staff. Proprietary information examined during the inspection was identified and returned to the licensee at the conclusion of the inspection. The inspectors verified the inspection report does not contain proprietary information.

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

- A. Price, Site Vice President - Millstone
- N. Sacco, Acting Manager, Nuclear Engineering
- S. Scace, Director, Nuclear Station Safety & Licensing
- J. Langan, Manager, Site Engineering
- B. Hoffner, Manager, Operations
- D. Aube, Supervisor, I&C Systems and Standards, Nuclear Engineering
- J. Craffey, Design Engineering
- D. Dakers, Engineering
- R. Deconto, Design Engineering
- T. Ickes, Inservice Testing Engineering
- L. Loomis, System Engineering
- J. Moos, Inservice Testing Engineering
- T. Rippel, Design Engineering
- T. Cleary, Licensing
- D. Fredericks, Licensing
- M. Kai, Safety Analysis
- F. Perkins, System Engineering
- E. Dundon, System Engineer
- P. Dillon, System Engineer

Nuclear Regulatory Commission (NRC)

- | | |
|--------------|----------------------------|
| L. Doerflein | Chief, Systems Branch, DRS |
| M. Schneider | Senior Resident Inspector |

List of Items Opened, Closed, and Discussed

Opened and/or Closed

None

LIST OF ACRONYMS

AFW	Auxiliary Feedwater
CR	Condition Report
CST	Condensate Storage Tank
DWST	Demineralized Water Storage Tank
EDG	Emergency Diesel Generator
IST	In-service Testing
MDAFW	Motor-drive Auxiliary Feedwater
SDP	Significance Determination Process
TDAFW	Turbine-Driven Auxiliary Feedwater
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report

LIST OF DOCUMENTS REVIEWEDDesign Bases Documents

3DBS-NSS-001	Millstone Unit 3 Design Bases Summary Document, Design Bases Summary for the Auxiliary Feedwater System, Rev. 1
3DBS-EDG-002	Design Basis Summary for the Emergency Diesel Generator [DGN-3346A], Rev. 0
3DBS-EDG-001	Design Basis Summary for the Emergency Diesel Engine ([DAX-3346A], [DCS-3346A], [DES-3346A], [DFS-3346B], [DLS-3346A], [DSA-33346A], [DGV-3314H]), Rev. 1

Engineering Record Correspondence

25212-ER-97-001	Review of the Millstone Unit 3 EDG Loading - Impact on the Emergency Operating Procedures, Rev. 0
25212-ER-99-107	EDG Fuel Return Header Check Valve Function, Rev. 0
25212-ER-00-0010	MP3 EDG Lube Oil Strainer Information, Rev. 0
25212-ER-01-0024	Unloaded Operation of MP3 EDGs Without Service Water Flow, Rev. 0

Design Drawings

12179-3FWA-040	Test Loop Diagram Auxiliary Feedwater Pump 3FWA*P2 Turbine Speed, Rev. 5
12179-3FWA-114A	Test Loop Diagram Auxiliary Feedwater Pump 3FWA*P1A Lube Oil Supply Pressure and Alarm, Rev. 6
12179-EE-1A	Main One Line/Phasing Diagram, Pwr. Distr. Sys. Composite, Rev. 22
12179-EE-1D	Main One Line Diagram, 4160V Norm. & Emer. Buses, Rev. 19
12179-EE-1H	4.16KV One Line Diagram, Bus 34B [3NNS-SWG-B] Sh. 1, Rev. 19
12179-EE-1K	4.16KV One Line Diagram, Bus 34C [3ENS*SWG-A(-O)], Sh.1, Rev. 34
12179-EE-1L	4.16KV One Line Diagram, Bus 34C [3ENS*SWG-A(-O)], Sh.2, Rev. 14
12179-EE-1M	4.16KV One Line Diagram, Bus 34D [3ENS*SWG-B(-P)], Sh.1, Rev. 37

12179-EE-1N	4.16KV One Line Diagram, Bus 34D [3ENS*SWG-B(-P)], Sh.2, Rev. 11
12179-EE-1U	480V One Line Diagram, [3EJS*US-1A & 3EJS*US-1B], Rev. 15
12179-EE-1V	480V One Line Diagram, [3EJS*US-2A & 3EJS*US-2B], Rev. 20
12179-EE-1W	480V One Line Diagram, [3EJS*US-3A & 3EJS*US-3B], Rev. 12
12179-EE-1Z	4.16KV One Line Diagram, Bus 34A & B, [3NNS-SWG-A & B], Sh.2 & AAC Diesel Gen [3BGS-BG-A], Rev. 12
12179-EE-1BA	One Line Diagram, 125VDC & 120VAC Distr. Sys - Cmpst, Rev. 23
12179-EE-1BB	125V DC One Line Diagram, Batteries 301A-1 & 301A-2, Rev. 31
12179-EE-1BC	125V DC One Line Diagram, Batteries 301B-1 & 301B-2, Rev. 29
12179-EE-1EF	480V One Line Diagram, [3EJS*US-4A & 3EJS*US-4B], Rev. 12
12179-EE-1EH	480V Distribution Pnl One Line Diag, Emergency Diesel Generator 3EGS*PNL1A & 3EGS*PNL1B, Rev. 4
12179-EE-47A	Conduit Plan & Details Emergency Generator Enclosure, Rev. 12
12179-ESK-5BC	Element Diagram 4.16 kV Normal Station Service Breaker [3NNS-ACB-BN] 3SA3 -34B-2, Rev. 18
12179-ESK-5BE	Element Diagram 4.16 kV Reserve Station Service Breaker [3ENS*ACB-BR] 32SA3 -34D-2, Rev. 25
12179-ESK-5BG	Element Diagram 4.16 kV Bus Tie Breaker [3ENS*ACB-TB] 34D -1T-2, Rev. 22
12179-ESK-5DR	Element Diagram 4.16 kV [15G-14U-2] Emergency Diesel Generator Breaker [3ENS*ACB-G-A], Rev. 22
12179-ESK-5DS	Element Diagram 4.16 kV [15G-15U-2] Emergency Diesel Generator Breaker [3ENS*ACB-G-B], Rev. 22
12179-ESK-5DX	Element Diagram 4.16 kV [3FWA*P1A] Steam Generator Breaker Aux Feedwater Pump Motor Driven P1A, Rev. 22
12179-ESK-5DY	Element Diagram 4.16 kV [3FWA*P1B] Steam Generator Breaker Aux Feedwater Pump Motor Driven P1B, Rev. 21
12179-ESK-5FB	Elem. Diag Alternate AC (Diesel) Feeder Breaker [3NNS-ACB-BJ], Sh. 5FB, Rev. 3
12179-ESK-5FC	Elem. Diag Alternate AC Diesel Generator Breaker Control [3BGS-ACB-BG-A], Rev. 2
12179-ESK-5FC1	Elem. Diag Alternate AC Diesel Generator Breaker Control [3BGS-ACB-BG-A], Rev. 4
12179-ESK-5FD	Elem. Diag Alternate AC Diesel Generator Breaker Backup Protection [3BGS-ACB-BG-A] Aux Ckt, Sh. 5FD
12179-ESK-6ACA	Elem. Diag 480V MC Emergency Generator A Air Compressor [3EGA-C1A, C2A], Rev. 9
12179-ESK-6DX	Elem. Diag 480V MC Emergency Generator Fuel Oil Transfer Pumps [3EGF*P1A, C], Rev. 10
12179-ESK-6VM	Elem. Diag 480V MC Steam Generator Aux Feedwater Isolation Valve [3FWA*MOV35A], Rev. 9
12179-ESK-7ACL	Elem. Diag 125VDC DWST To Aux Feedwater Pump Suction [3FWA*AOV61A & B], Rev. 6
12179-ESK-7ACM	Elem. Diag 125VDC Aux Feedwater Pump Discharge Crossover Valves [3FWA*AOV62A & B], Rev. 6
12179-ESK-7AJ	Elem. Diag 125VDC Auxiliary Feedwater Alternate Suction Valves [3FWA*AOV23A & B], Rev. 12

12179-ESK-7AM	Elem. Diag 125VDC DWST Heater Circulation Isolation Valves [3FWA*AOV25A & 26], Rev. 6
12179-ESK-7MX	Elem. Diag 125VDC Turbine Driven Aux Feedwater Pump Steam Supply Valve [3MSS*AOV31A], Rev. 6
12179-ESK-7QD	Elem. Diag 125VDC Turbine Driven Aux Feedwater Pump Auxiliary Oil Pump [3FWL*P5], Rev. 9
12179-ESK-7RF	Elem. Diag 125VDC Turbine Driven Aux Feedwater Pump Motor Speed Changer [3FWA*M7], Rev. 10
12179-ESK-7W	Elem. Diag Emergency Diesel Generator Cooler Outlet Valve [3SWP*AOV39A & B], Rev. 6
12179-ESK-7XA	Elem. Diag 125VDC Aux Feedwater Control Valves, Sh. 1, Rev. 8
12179-ESK-8KC	125V DC Generator A Start Circuit 3EGSA01 [3EGS* EG-A], Rev. 12
12179-ESK-8KD	125VDC Emer Diesel Gen Stop Circuit 3EGSA01 [3EGS* EG-A], Rev. 15
12179-LSK-6-2.1	Logic Diagram Motor Driven Auxiliary Feedwater Pump and Recirculation, Sh. A to J
12179-LSK-6-2.2	Logic Diagram Turbine Driven Auxiliary Feedwater Pump and Recirculation, Sh. A to J
12179-LSK-6-3.2	Logic Diagram Auxiliary Feedwater Pump and Drive Lube Oil, Rev. 6
12179-LSK-8-9	Logic Diagram Emergency Generator Fuel, Sh. A to B
12179-LSK-24-2	Logic Diagram Normal Station Service Breaker Controls, Sh. A to J
12179-LSK-24-3	Logic Diagram Reserve Station Service Breaker Controls, Sh. A to K
12179-LSK-24-4	Logic Diagram Medium Voltage Bus Tie Breaker Controls, Sh. A to B
12179-LSK-24-9.2	Logic Diagram Emergency Generator Breaker Controls, Sh. A to D
12179-LSK-24-9.3	Logic Diagram Emergency Diesel Generator Control & Protection, Sh. A to Q
12179-LSK-24-9.4	Logic Diagram Emergency Generator Load Sequencer Timing, Sh. A to Z
12179-LSK-24-13.1	Logic Diagram Alternate AC Generator Breaker Controls, Sh. A to D
25203-30001	Millstone Unit 2 Main Single Line Diagram, Rev. 20
25203-30005	Millstone Unit 2 Single Line Meter & Relay Diagram, 4.16KV Emerg. Buses 24C, 24D (A3, A4), Rev. 15
25203-30009	Millstone Unit 2 Single Line Meter & Relay Diagram, 4.16KV Emerg. Bus 24E (A5), 24G (A7), Rev. 9
25203-32002	Elem. Diag 4.16KV Tie Feeder Bkr 24D-2T-2 (A408), Sh.14, Rev. 6
25203-32002	Elem. Diag 4.16KV Main Feeder Breaker 34B-24E-2 (A505), Sh.15 & 15A
25212-28708	Logic Diagram Reserve Station Service Breaker Controls, Sh.1-10
25212-32001	Elem. Diag 4.16KV Reserve Station Service Breaker [3ENS*ACB-BR] 23SA3-34D-2, Sh. 5BE, Rev. 25
25212-39241	Emergency Generator Load Sequencing [3EGS*EG-A/B, Sh. 189-193
555-29296	PERMUTIT, Outline and Assembly 6" Cavitating Venturi, Rev. 2
25212-29043	Sheet 1, Sectional - VIT 3x7ALC 1 Stage, Rev. G
C-74-553	Richmond Engineering Co., Inc., Demineralized Water Storage Tank, Rev. 7
D-74-413	Richmond Engineering Co., Inc., Demineralized Water Storage Tank, Rev. 14
NS5990	Emergency Generator Fuel Oil Storage Tank, Rev. IV
NS5991	Emergency Generator Fuel Oil Storage Tank, Rev. II

T-80-409	Emergency Generator Fuel Oil Transfer Pumps - Mark No. 3EGF-P1D, Rev. 1
T-80-410	Emergency Generator Fuel Oil Transfer Pumps - Mark No. 3EGF-P1C, Rev. 1
T-80-411	Emergency Generator Fuel Oil Transfer Pumps - Mark No. 3EGF-P1B, Rev. 1
T-80-412	Emergency Generator Fuel Oil Transfer Pumps - Mark No. 3EGF-P1A, Rev. 1

S&W Drawings

12179-EC-30F-5	Demin Water Tank Foundation Yard Tankage, Rev. 2
12179-EM-104B	Chemical and Volume Control, Rev. 17
12179-EM-113A	High Pressure Safety Injection, Rev. 23
12179-EM-116E	Emergency Diesel Exhaust, Combustion Air and Crankcase Vacuum System, Rev 8
12179-EM-117A	Emergency Generator Fuel Oil System, Rev. 23
12179-EM-123A	Main Steam and Reheat, Rev 40
12179-EM-126C	Condensate System, Rev. 19
12179-EM-130A	Feedwater System, Rev. 23
12179-EM-130B	Feedwater System, Rev 38
12179-EM-130C	Feedwater System, Rev. 20
12179-EM-130D	Feedwater System, Rev. 20
12179-EM-133B	Service Water, Rev 56
12179-EM-141B	Turbine Generator and Feed Pump Oil Systems, Rev 17

Design Change Notices

DCN M3-00-1106-98	OIM 241-001A Changes for EDG Fuel Injector Modification
DCN M3-00-1105-98	Removal of Cooling Water to/from Diesel Fuel Injectors
DCR M3-96059	MP3-Modify Target Rock Solenoid Valves 3FWA*HV36A-D, Rev. 0
DCR M3-98007	Reduced AFW Flow Rates, New FSAR Chapter 15 Analyses, Rev. 0
DCR M3-98049	EDG Fuel Injector Modification, Rev. 0
DM3-00-0007-03	Revise PID EM-116B to add 3EGA-V941
DM3-00-0107-98	Change to 3DBS-NSS-001 for Revised AFW Flow
DM3-00-0190-02	P&ID Normal Valve Position Note Change for 3FWA V33, 37 and 41
DM3-00-0232-01	MP3-AFW System, Pump Minimum Flow Requirement, July 30, 2001
DM3-00-0343-98	3FWA HV32B, HV32C and HV32D Set Point Change
DM3-00-0388-99	Resolution to PI-24
DM3-00-0465-99	Seal Weld of 'B' Diesel Fuel Connection, Rev. 0
DM3-00-0470-98	Change Design Basis Summary DBS, 3DBS-NSS-001, Rev 1
DM3-00-0476-99	SBO Generator Metering Upgrade and Resistor Addition, dated October 30, 1999
DM3-00-0572-97	FWA System Rerate
DM3-00-0679-99	Revise PID EM-116B to Indicate Locked Valve
DM3-00-1367-97	SBO Diesel Generator Output Breaker and Tie Breaker Close Circuit Interlock Logic Modification, dated December 12, 1997, Including Revision 01 and 02

DM3-00-1449-97	3FWA*MOV35A/B/C/D Electrical Changes Due to Valve Operator Changes, dated March 11, 1998, including Revisions 01, 02, & 03
DM3-00-1639-97	FWA Turbine Exhaust Condensate Drain Header Tie In to Drain Header, dated November 1, 1997
DM3-01-0052-03	Installation of New Spread Exhaust Manifold for Emergency Diesels, 3EGS*EGA and 3EGS*EGB, Rev. 0
DM3-01-0054-01	TDAFW Pump 3FWA T1 3FWA p2 Lube Oil System
DM3-01-0355-00	Direction Overcurrent Timer Relay Contacts 62AR Interlock (Bus 34C), dated September 17, 2002
DM3-01-0636-98	Establish Check valve 3FWA*V35, 3FWA*V39, 3FWA*V43, and 3FWA*V47 as the HELB Boundary, dated June 18, 1998
DM3-02-0636-98	Resolve HELB Boundary Discrepancy, DCR M3-97046
DM3-05-0314-95	Removal of Diaphragm from Demineralized Water Storage tank (DWST), dated April 5, 1995
DM3-S-1034-96	3FWA*MOV35A, B, C, D Replacement Valve Yokes, dated April 23, 1998

Safety Evaluations

S3-EV-970407	Replacement of Actuator, Gear Sets, Motors, Valve Stems, Stem Nuts, TOLs, and Trip Coils with New Settings for Auxiliary Feedwater Valves 3FWA*MOV35A/B/C/D, and Modification of Pipe Support, Rev. 1
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Calculations/Evaluations

HAZ-01492M3	High Energy Line Break (HELB) on AFW System in ESF Building, Rev. 0 Change 1
NSP-098-FWA	Demineralized Water Storage Tank Level Setpoint and Loop Uncertainty Calculation, Rev. 2
12179-P(B)-0799	Verify the EDGs Fuel Oil Transfer Pumps 3EGF*P1A, P1B, P1C, P1D Pumping Capability from the Fuel Oil Storage Tanks to the Fuel Oil Day Tanks, Rev. 1
12179-P(R)-1167	Selection of Piping & Thickness of Auxiliary Feedwater Piping, Rev. 0
12179-P(T)-1182	Change 1 Auxiliary Feedwater (FWA) System Operating Pressures and Temperatures for Stress Data Package (SDP-FWA-4), Rev. 1
12179-SP-3FWA-1	Setpoint Determination and Loop Accuracy Calculation for 3FWA*PS52A, B and -PS52C, Rev. 3
12179-SP-3FWA-10	Setpoint Determination for 3FWA*HV36A, B, C, D Position Indication Instrumentation Loops, Rev. 0 Change 3
12179-SP-3FWA-12	Auxiliary Feedwater Pump Overpressure Protection Relief Valves - 3FWA*RV64A, B & RV65, Rev. 0
12179-SP-3FWA-4	3FWA-PS39 Trip for Demineralized Water Storage Tank Heater Pump on Low Suction Pressure, Rev. 1
12179-SP-3FWA-6	3FWA*RV45 Overpressure Protection for Discharge Line of Turbine-Driven Feedwater Pump, Rev. 0
01-ENG-01858 M3	AFW System, AFW Pumps (3FWA*P1A, P1B, P2) Minimum Flow Requirement, Rev. 0
95-052	Safety Grade Cold Shutdown Design Basis Analysis, Rev. 1 Change 3

96-056	MP3-Auxiliary Feedwater System; Determination of Degraded and Maximum Pump Curves, Rev. 0 Change 1
96-067	Auxiliary Feed Water System Comprehensive Flow Analysis, Rev. 1
97-ENG-01474D3	MPE AFW System DWST Inventory Loss as a Result of an SSE, Rev. 0
97-014	MP3-AFW System, Determination of AFW Turbine/Pump Speed and AFW System Flows, Rev. 0 Change 2
M3-EV-010023	Evaluation of Seabrook EDG Failure Event for Applicability at Millstone 3, Rev. 0
M3-EV-970138	Verification of Fuel Oil Transfer Pump Operability, Rev. 0
M3-EV-970158	EDG "B" Test Instrumentation Evaluation, Rev. 0
M3-EV-970163	Change to FSAR Description of EDG Standby Temperatures, Rev. 0
M3-EV-970327	EDG Heat Exchanger Chemical Cleaning, Rev. 1
M3-EV-980012	EDG Lube Oil Temperature VS Starting Time, Rev. 0
M3-EV-980060	EDG Heat Exchanger 3EGS-E1B and E2B, Rev. 0
M3-EV-980144	EDG Heat Exchanger 3EGS-E1A and E2A Thermal Performance Test, Rev. 0
M3-EV-980148	EDG Heat Exchanger 3EGS-E1A and E2A Thermal Performance Test, Rev. 0
90-069-1130 M3	Millstone Unit 3 - Service Water System - Summary of Westinghouse Heat Exchanger Calculations, Rev. 0
SP-3EGA-4	Receiver Tank Relief Valve, Rev. 0
SP-3EGA-8	Setpoint Calculation for Temperature Control Valve 3EGS*TCV50A/B, Rev. 1
SP-3EGS-7	Thermostat 3EGS*TC31A, 31B Setpoint, Rev. 1
SP-3EGS-9	Intercooler Temperature Control Valve 3EGS*TCV44A/B, Rev. 0
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91-019-152 M3	Identification of EDG Run Times Under Varying Fuel Oil Storage Levels, Rev. 0
NL-033	Millstone 3 Emergency Generator Loading & Starting KVA Calculation, Rev. 4, Changes 1, 2 & 3
NSP-110-FWL	3FWL*PS114A, B1, A2, B2 Alarm and Pump Trip on Low Lube Oil Pressure for Aux Feedwater Motor Driven Pumps, Rev. 0
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SP-3EGF-010	Low Fuel Oil Pressure Switch 3EGF*PS38A/B Setpoint Calculation, Rev. 0
SP-3EG0-4	3EGO*PS23A1, 2, 3 Oil Pressure Low Shutdown Setpoint Calculation, Rev. 0
SP-3EGS-4	Setpoint Calculation for 3EGS*PS27A2/B2 EDG Jacket Water Pressure Switches, Rev. 2, Change 1

Station Procedures

OP 3346A-001	EDG A - Cooling Water Valve Lineup, Rev. 7
OP 3346A-003	EDG A - Lube Oil Valve Lineup, Rev. 6
OP 3346A-005	EDG A - Starting Air Valve Lineup, Rev. 8

OP 3346A-009	EDG A - Instrument Valve Lineup, Rev. 9
OP 3346A-007	EDG A - Crankcase Vacuum Valve Lineup, Rev. 5
OP Form 3314H-001	EDG A - Enclosure Ventilation System, Rev. 4
OP Form 3314H-003	EDG Ventilation Train A, Rev. 1
OP 3260	Equipment Control, Rev. 003-02
OP 3353.MB5C	Main Board 5C Annunciator Response, Rev. 003-05
OP 3353.MB8B	Main Board 8B Annunciator Response, Rev. 002-02
OP 3322	Auxiliary Feedwater System, Rev. 019-08
SP 3622.1	AFW Pump 3FWA-P1A Operational Readiness Test, Rev. 014-04
SP 3622.4	AFW System Lineup Verification, Rev. 5-02
SP 3646B.2	Emergency Generator Fuel Oil Transfer Pump P1B Operational Readiness Test, Rev. 007-02
SP 3646A.18	EDG 'B' 24 Hour Run and Restart, Rev. 3
SP 3646A.17	EDG 'A' 24 Hour Run and Restart, Rev. 2
SP 3646A.1	EDG 'A' Operability Tests, Rev. 14
SP 3646A.2	EDG 'B' Operability Tests, Rev. 17
SP 3712K	EDG Surveillance Inspection , Rev. 6
SP 3626.13-002	CCI and EDG Trains A Heat Exchanger Fouling Determination, Rev. 16
SP 3626.13-003	CCI and EDG Trains B Heat Exchanger Fouling Determination, Rev. 16
CBM 105	Preventive Maintenance Program, Rev 004-01
C PT 1405	4.16kV and 6.9kV Motor and Surge Capacitor Tests, Rev. 0, Change 1
IC3465I02	Turbine Driven AFW Pump Airpack Model 300 Electronic Tachometer, Rev. 1
MP 3720CB	PM Diesel Generator Mechanical Maintenance, Rev. 7
AOP 3562	Loss of Instrument Air, Rev. 4
2000-RAP-3024.03	Storage Tank Level Hi-Lo (Alarm k-6-c), Rev. 119
MP-UT-5	Ultrasonic Examination Procedure for Ultrasonic Straight Beam Measurements, Rev. 000-00
SP 3622.1	Auxiliary Feedwater Pump 3FWA*P1A Operational Readiness Test, Rev. 014-04
SP 3622.3	Auxiliary Feedwater Pump 3FWA*P2 Operational Readiness Test, Rev. 016-04

Calibration Reports

3EGF-PS38A	Diesel Generator Fuel Oil Pressure Switch Calibration Data Sheet
3FWA-040	Auxiliary Feedwater Pump 3FWA*P2 Turbine Speed Loop, Rev 2
3FWL-114A	Auxiliary Feedwater Pump 3FWA*P1A Lube Oil Supply Pressure Control and Alarm Loop, Rev 1
SP 3443C10	Pressurizer Pressure Narrow Range Channel 1 Rack Calibration Data Sheets for A & B Loop
SP 3451T11	Train A EDG Shutdown Instrumentation 3 EGO*PS23A1, A2, A3 Rev 1

System Health Reports

3346A, B	Emergency Diesel Generator and EDG Fuel Oil, dated July 18, 2003
3346C	SBO Diesel Generator, dated July 21, 2003

Condition Reports (those with an asterisk were initiated due to NRC inspection activities)

01-09415	02-11446	02-11848	03-04298	03-07426*
01-09486	02-03749	02-12203	03-04652	03-07436
01-07174	02-12725	03-01163	03-04759	03-07622
01-07445	02-07022	03-00335	03-06732	03-07626*
01-00816	02-05678	03-02923	03-07159	03-07655*
01-01753	02-02894	03-00734	03-07188*	03-07679*
01-03182	02-07218	03-01881	03-07217*	03-07687
01-03301	02-00144	03-02195	03-07223*	03-07700*
01-08422	02-02729	03-02670	03-07253*	03-07707*
01-08422	02-08562	03-02670	03-07254*	03-07728*
01-08943	02-08659	03-03663	03-07271*	03-07756*
01-09402	02-10157	03-04142	03-07396	
01-09402	02-10636			

Work Orders

M3-87-11710 M3-90-22778 M3-95-01166 M3-95-08302 M3-95-13384 M3-96-15311
M3-99-03408 M3-01-20169 M3-00-02099 M3-02-17606 M3-02-17607 M3-02-18656
M3-02-18677 M3-03-03720 M3-03-06562 M3-03-00951 M3-03-00878 M3-98-08358
M3-99-05365 M3-99-20970 M3-93-08729

Emergency Operating Procedures

EOP 35FR-H.1	Response to Loss of Secondary Heat Sink, Rev. 14
EOP 35FR-H.5	Response to Steam Generator Low Level, Rev. 07
EOP 35FR-C.2	Response to Degraded Core Cooling, Rev. 12
EOP 35ECA-0.0	Loss of All AC Power (Local Start of EDG), Rev. 16
EOP 35ES-0.1	Loss of All AC Power-Recovery Without SI Required, Rev. 19
EOP 35ES-1.3	Transfer to Cold Leg Recirculation, Rev. 10
EOP 35E-1	Loss of Reactor or Secondary Coolant, Rev. 18
EOP 3504	Cooldown Outside the Control Room, Rev. 01

Other Documents

AR 98013364 GO 89-13, Retest of "B" EDG Heat Exchanger 3EGS-E1B and E2B
AR02007682-35, Replacement of Cams for Limit Switches for 3QSS-AOP 27 and 28
AR 98013586 GO 89-13, Retest of "A" EDG Heat Exchanger 3EGS-E1A
Engineering & Design Coordination Report (E&DCR) F-J-37826, Hanger Discrepancies (3FWA-4-PSR331, 3FWA-4-PSR332), dated October 2, 1984
E&DCR T-C-07003, Revise Setpoint 3FWA*RV45, dated August 21, 1985
Final Safety Analysis Report Section 10.4.9, Auxiliary Feedwater System, March 2001
Operability Determination (OD) MP3-039-03, Five MP3 Turbine Driven Auxiliary Feedwater (TDAFW) Pump Room HVAC calculation discrepancies were identified, dated May 13, 2003
Operability Determination (OD) MP3-044-03, The DWST has a 6 inch "inverted J" vent that extends outside the tank's protective concrete roof and this vent appears to be a credible target for a postulated tornado generated external missile, Revision 0
Vendor Technical Manual (VTM) 25212-041-001, Revision 4, Installation, Operation and Maintenance of Motor-Driven Auxiliary Feedwater Pumps
Vendor Technical Manual (VTM) 25212-041-002, Revision 4, Installation, Operation and Maintenance of Turbine-Driven Auxiliary Feedwater Pumps

Vendor Technical Manual (VTM) 25212-041-003, Revision 6, Installation, Operation and Maintenance of Centrifugal Pump Steam Turbine
VTM 25212-241-001, EDG Vendor Manual
System Engineer System Health Report System Number 3322, Auxiliary Feedwater-First Quarter 2003, April 7, 2003
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System Description 3322, Revision 0, Auxiliary Feedwater System QA Categories I and II
Root Cause Investigation of CR-01-03301, "Unit 3 TD AFW Pump Start Time Surveillance Failure"
Technical Specification 3.7.1.2, Plant Systems, Auxiliary Feedwater System
Technical Specification 3.7.1.3, Plant Systems, Demineralized Water Storage Tank
Technical Specification B3/4.7.1.2, Plant Systems, Auxiliary Feedwater System
Technical Specification B3/4.7.1.3, Plant Systems, Demineralized Water Storage Tank
EDG064C, Emergency Diesel Generator and Support Systems Lesson, Rev 4
FWA061C, Auxiliary Feedwater System Lesson, Rev 5, Change 1
MP-3M-93-061, Internal Memorandum - PM Requirements on Aux Feed Pump Motors - AWO's M3-8711710 & M3-87-11715
GEK-42871, Motor Maintenance and Inspection Plan
FSAR Section 8.3.1.1.3, Emergency AC Power Source
FSAR Section 9.2, Table 9.2-1, Service Water System Flow Requirements
FSAR Section 9.5, Table 9.5-3, Design Data for Motor Components in Emergency Generator Cooling water Systems