

August 15, 2008

Mr. Gene St. Pierre
Site Vice President
FPL Energy Seabrook, LLC
Seabrook Station
c/o Mr. Michael O'Keefe
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION - NRC TRIENNIAL FIRE PROTECTION INSPECTION
REPORT 05000443/2008008

Dear Mr. St. Pierre:

On July 31, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station. The enclosed inspection report documents the inspection results, which were discussed on July 31, 2008, with Mr. P. Freeman and other members of your staff.

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

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

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

Mr. Gene St. Pierre

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(the Public Electronic Reading Room).

Sincerely,

/RA/

John F. Rogge, Chief
Engineering Branch 3
Division of Reactor Safety

Docket No. 50-443
License No. NPF-86

Enclosure: Inspection Report No. 05000443/2008008
w/Attachment: Supplemental Information

Mr. Gene St. Pierre

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Mr. Gene St. Pierre

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 05000443

License No.: NPF-86

Report No.: 05000443/2008008

Licensee: FPL Energy Seabrook, LLC

Facility: Seabrook Nuclear Power Station

Location: P.O. 300
Seabrook, NH 03874

Dates: July 14-31, 2008

Inspectors: L. Scholl, Senior Reactor Inspector, DRS
M. Patel, Reactor Inspector, DRS
T. Setzer, Project Engineer, DRP

Approved by: John F. Rogge, Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000443/2008008; 07/14/2008 - 07/31/2008; FPL Energy Seabrook, LLC; Seabrook Nuclear Power Station; Triennial Fire Protection Team Inspection.

The report covered a two-week triennial fire protection team inspection by specialist inspectors. 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," Rev. 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None

REPORT DETAILS

Background

This report presents the results of a triennial fire protection inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05T, "Fire Protection." The objective of the inspection was to assess whether Florida Power and Light has implemented an adequate fire protection program and that post-fire safe shutdown capabilities have been established and are being properly maintained at the Seabrook Nuclear Power Station. The following fire areas (FAs) were selected for detailed review based on risk insights from the Seabrook Individual Plant Examination (IPE)/Individual Plant Examination of External Events (IPEEE):

- FA CB-F-3A-A
- FA ET-F-1A-A, ET-F-1B-A
- FA DG-F-1A-A, DG-F-2A-A, DG-F-3A-Z, DG-F-3C-A
- FA NES-F-1A-Z

The inspection team evaluated the licensee's fire protection program (FPP) against applicable requirements which included plant Technical Specifications, Operating License Condition 2.F, NRC Safety Evaluations, 10 CFR 50.48, 10 CFR 50 Appendix R, and Branch Technical Position (BTP) Chemical Engineering Branch (CMEB) 9.5-1. The team also reviewed related documents that included the Updated Final Safety Analysis Report (UFSAR), Section 9.5.1, the fire hazards analysis (FHA), and the post-fire safe shutdown analysis.

Specific documents reviewed by the team are listed in the attachment.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R05 Fire Protection (IP 71111.05T)

.01 Post-Fire Safe Shutdown From Outside Main Control Room (Alternative Shutdown) and Normal Shutdown

a. Inspection Scope

Methodology

The team reviewed the safe shutdown analysis, operating procedures, piping and instrumentations drawings (P&IDs), electrical drawings, the UFSAR and other supporting documents to verify that hot and cold shutdown could be achieved and maintained from outside the control room for fires that rely on shutdown from outside the control room. This review included verification that shutdown from outside the control room could be performed both with and without the availability of offsite power. Plant walkdowns were also performed to verify that the plant configuration was consistent with that described in the safe shutdown and fire hazards analyses. These inspection

Enclosure

activities focused on ensuring the adequacy of systems selected for reactivity control, reactor coolant makeup, reactor decay heat removal, process monitoring instrumentation, and support systems functions. The team verified that the systems and components credited for use during this shutdown method would remain free from fire damage. The team verified that the transfer of control from the control room to the alternative shutdown location(s) would not be affected by fire-induced circuit faults (e.g., by the provision of separate fuses and power supplies for alternative shutdown control circuits).

Similarly, for fire areas that utilize shutdown from the control room, the team also verified that the shutdown methodology properly identified the components and systems necessary to achieve and maintain safe shutdown conditions.

Operational Implementation

The team verified that the training program for licensed and non-licensed operators included alternative shutdown capability. The team also verified that personnel required for safe shutdown using the normal or alternative shutdown systems and procedures are trained and available onsite at all times, exclusive of those assigned as fire brigade members.

The team reviewed the adequacy of procedures utilized for post-fire shutdown and performed an independent walk through of procedure steps to ensure the implementation and human factors adequacy of the procedures. The team also verified that the operators could be reasonably expected to perform specific actions within the time required to maintain plant parameters within specified limits. Time critical actions, which were verified, included restoration of alternating current (AC) electrical power, establishing the remote shutdown and local shutdown panels, establishing reactor coolant makeup, and establishing decay heat removal.

Specific procedures reviewed for alternative shutdown, including shutdown from outside the control room included the following:

- OS1200.00 Response to Fire or Fire Alarm Actuation, Rev. 14
- OS1200.00A Fire Hazards Analysis for Affected Area/Zone-Appendix A, Rev. 12
- OS1200.01 Safe Shutdown and Cooldown From the Main Control Room, Rev. 12
- OS1200.02 Safe Shutdown and Cooldown From the Remote Safe Shutdown Facilities, Rev. 12
- OS1200.02A Remote Safe Shutdown Control - Train A, Rev. 12
- OS1200.02B Remote Safe Shutdown Control - Train B, Rev. 12

The team reviewed manual actions to ensure that they had been properly reviewed and approved and that the actions could be implemented in accordance with plant procedures in the time necessary to support the safe shutdown method for each fire area. The team also reviewed the periodic testing of the alternative shutdown transfer

capability and instrumentation and control functions to ensure the tests are adequate to ensure the functionality of the alternative shutdown capability.

b. Findings

No findings of significance were identified.

.02 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team reviewed the FHA, safe shutdown analyses and supporting drawings and documentation to verify that safe shutdown capabilities were properly protected. The team ensured that separation requirements of Section III.G of 10 CFR 50, Appendix R and the UFSAR were maintained for the credited safe shutdown equipment and their supporting power, control and instrumentation cables. This review included an assessment of the adequacy of the selected systems for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring, and associated support system functions.

The team reviewed the licensee's procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the FHA. A sample of hot work and transient combustible control permits were also reviewed. The team performed plant walkdowns to verify that protective features were being properly maintained and administrative controls were being implemented.

b. Findings

No findings of significance were identified.

.03 Passive Fire Protection

a. Inspection Scope

The team walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries (including walls, fire doors and fire dampers), and electrical raceway fire barriers to ensure they were appropriate for the fire hazards in the area.

The team reviewed installation/repair and qualification records for a sample of penetration seals to ensure the fill material was of the appropriate fire rating and that the installation met the engineering design. The team also reviewed similar records for the fire protection wraps to ensure the material was of an appropriate fire rating and that the installation met the engineering design.

b. Findings

No findings of significance were identified.

.04 Active Fire Protection

a. Inspection Scope

The team reviewed the design, maintenance, testing, and operation of the fire detection and suppression systems in the selected plant fire areas. This included verification that the manual and automatic detection and suppression systems were installed, tested, and maintained in accordance with the National Fire Protection Association (NFPA) code of record, or as NRC approved exemptions (or deviations for post 79 plants), and that each suppression system would control and/or extinguish fires associated with the hazards in the selected areas. A review of the design capability of the suppression agent delivery systems were verified to meet the code requirements for the hazards involved. The team also performed a walkdown of accessible portions of the detection and suppression systems in the selected areas as well as a walkdown of major system support equipment in other areas (e.g. fire pumps, storage tanks and supply system) to assess the material condition of the systems and components.

The team reviewed electric and diesel fire pump flow and pressure tests to ensure that the pumps were meeting their design requirements. The team also reviewed the fire main loop flow tests to ensure that the flow distribution circuits were able to meet the design requirements.

The team assessed the fire brigade capabilities by reviewing training, qualification, and drill critique records. The team also reviewed pre-fire plans and smoke removal plans for the selected fire areas to determine if appropriate information was provided to fire brigade members and plant operators to identify safe shutdown equipment and instrumentation, and to facilitate suppression of a fire that could impact post-fire safe shutdown capability. In addition, the team inspected the fire brigade equipment (including smoke removal equipment) to determine operational readiness for fire fighting.

b. Findings

No findings of significance were identified.

.05 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

The team performed document reviews and plant walkdowns to verify that redundant trains of systems required for hot shutdown are not subject to damage from fire suppression activities or from the rupture of inadvertent operation of fire suppression systems. Specifically, the team verified that:

- A fire in one of the selected fire areas would not directly, through production of smoke, heat or hot gases, cause activation of suppression systems that could potentially damage all redundant safe shutdown trains.
- A fire in one of the selected fire areas (or the inadvertent actuation or rupture of a fire suppression system) would not directly cause damage to all redundant trains (e.g. sprinkler caused flooding of other than the locally affected train).
- Adequate drainage is provided in areas protected by water suppression systems.

b. Findings

No findings of significance were identified.

.06 Alternative Shutdown Capability

a. Inspection Scope

Alternative shutdown capability for the areas selected for inspection utilizes shutdown from outside the control room and is discussed in section 1R05.01 of this report.

b. Findings

No findings of significance were identified.

.07 Circuit Analysis

a. Inspection Scope

The team verified that the licensee performed a post-fire safe shutdown analysis for the selected fire areas and the analysis appropriately identified the structures, systems, and components important to achieving and maintaining safe shutdown. Additionally, the team verified that the licensee's analysis ensured that necessary electrical circuits were properly protected and that circuits that could adversely impact safe shutdown due to hot shorts, shorts to ground, or other failures were identified, evaluated, and dispositioned to ensure spurious actuations would not prevent safe shutdown.

The team's review considered fire and cable attributes, potential undesirable consequences and common power supply/bus concerns. Specific items included the credibility of the fire threat, cable insulation attributes, cable failure modes, and actuations resulting in flow diversion or loss of coolant events.

The team also reviewed cable routing for a sample of components required for post-fire safe shutdown to verify that cable routing was consistent with the assumptions and conclusions of the safe shutdown analyses.

Cable failure modes were reviewed for the following components:

- RC-LCV-459, Reactor Coolant Letdown Isolation Valve
- SI-V138 & SI-V139, Charging Pump to Cold Leg Injection Valves
- CS-LCV-112E, RWST to Charging Pump Isolation Valve
- CS-LCV-112C & CS-LCV-112B, Chemical and Volume Control Tank Outlet Isolation Valves
- CC-P-322A, Thermal Barrier Primary Component Cooling Water Recirculation Pump 'B'
- CC-P-11A & CC-P-11B, Primary Component Cooling Water Pump 'A' & 'B'

The team reviewed circuit breaker coordination studies to ensure equipment needed to conduct post-fire safe shutdown activities would not be impacted due to a lack of coordination. The team confirmed that coordination studies had addressed multiple faults due to fire. Additionally, the team reviewed a sample of circuit breaker maintenance records to verify that circuit breakers for components required for post-fire safe shutdown were properly maintained in accordance with procedural requirements.

b. Findings

No findings of significance were identified.

.08 Communications

a. Inspection Scope

The team reviewed safe shutdown procedures, the safe shutdown analysis, and associated documents to verify an adequate method of communications would be available to plant operators following a fire. During this review, the team considered the effects of ambient noise levels, clarity of reception, reliability, and coverage patterns. The team also inspected the designated emergency storage lockers to verify the availability of portable radios for the fire brigade and for plant operators. The team also verified that communications equipment such as sound powered phone system cables would not be affected by a fire.

b. Findings

No findings of significance were identified.

.09 Emergency Lighting

a. Inspection Scope

The team observed the placement and coverage area of eight-hour emergency lights throughout the selected fire areas to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation and/or instrumentation monitoring for post-fire safe shutdown. The team also verified that the battery power

supplies were rated for at least an eight-hour capacity. Preventive maintenance procedures, the vendor manual, completed surveillance tests, and battery replacement practices were also reviewed to verify that the emergency lighting was being maintained in a manner that would ensure reliable operation.

b. Findings

No findings of significance were identified.

.10 Cold Shutdown Repairs

a. Inspection Scope

The team verified that the licensee had dedicated repair procedures, equipment, and materials to accomplish repairs of components required for cold shutdown which might be damaged by the fire to ensure cold shutdown could be achieved within the time frames specified in their design and licensing bases. The team verified that the repair equipment, components, tools, and materials (e.g. pre-cut cables with prepared attachment lugs) were available and accessible on site.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The team verified that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown equipment, systems, or features (e.g. detection and suppression systems and equipment, passive fire barriers, or pumps, valves or electrical devices providing safe shutdown functions or capabilities). The team also verified that the short term compensatory measures compensated for the degraded function or feature until appropriate corrective action could be taken and that the licensee was effective in returning the equipment to service in a reasonable period of time.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems

.01 Corrective Actions for Fire Protection Deficiencies

a. Inspection Scope

The team verified that the licensee was identifying fire protection and post-fire safe shutdown issues at an appropriate threshold and entering them into the corrective action program. The team also reviewed a sample of selected issues to verify that the licensee had taken or planned appropriate corrective actions.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The team presented their preliminary inspection results to Mr. P. Freeman, Plant General Manager, and other members of the site staff at an exit meeting on July 31, 2008. No proprietary information was included in this inspection report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT
SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT

Licensee Personnel

M. Collins, Design Engineering Manager
D. Conti, Technical Services Consultant
D. Flemming, Fire Protection Training Specialist
P. Freeman, Plant General Manager
R. Jamison, Design Engineer
G. Jasinski, Corrective Action Program Specialist
R. Jones, Corrective Action Program Specialist
D. Kelly, EOP Coordinator
G. Kotokowski, Electrical Design Supervisor
R. Law, Fire Marshal
C. Moynihan, Senior Analyst
R. Noble, Engineering Director
M. O'Keefe, Licensing Manager
M. Ossing, Fire Protection Engineering Supervisor
J. Peschel, Regulatory Programs Manager
V. Robertson, Senior Licensing Analyst
T. Schultz, Principal Engineer
J. Sobotka, Design Engineer Supervisor
E. Spader, Training Supervisor
E. Trump, Fire Protection Engineer

NRC

J. Rogge, Chief, Engineering Branch 3, Division of Reactor Safety
W. Schmidt, Senior Reactor Analyst, Division of Reactor Safety
W. Raymond, Senior Resident Inspector, Seabrook Nuclear Power Station
J. Johnson, Resident Inspector, Seabrook Nuclear Power Station

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Opened and Closed

NONE

Closed

NONE

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Fire Protection Licensing Documents

Appendix A, Evaluation and Comparison to BTP APCSB 9.5-1, Rev. 10
Appendix R, Fire Protection of Safe Shutdown Capability 10 CFR 50, Rev. 9
Fire Protection Manual, Rev. 32
NUREG 0896, Safety Evaluation Report Related to the Operation of Seabrook Station,
March 1983
Technical Requirements Manual, Rev. 110
Upgraded Final Safety Analysis Report, Rev. 12

Calculations/Engineering Evaluation Reports/Design Bases Documents

07DCR003, Appendix R Time Critical Operator Actions and RCP Seal Cooling, Rev. 1
9763-3-ED-00-32-F, Diesel Generator Relay Settings, Rev. 5
9763-3-ED-00-70-F, Appendix R – Fuse Coordination, Rev. 2
C-S-1-84213, Appendix R Timing Calculations for Reactor Coolant Inventory Control, Rev. 1
C-S-1-84019, Appendix R Timing Calculations for Reactor Coolant Pressure Control, Rev. 1
C-S-1-80801, Appendix R Timing Calculations for Decay Heat Removal, Rev. 1
C-S-1-84214, Appendix R Timing Calculations for Reactivity Control, Rev. 0
DBD-FP-06, Fire Rated Doors, Dampers, Conduit Wrap and Heat Shields, Rev. 2
EE-07-029, Appendix R Fire Safe Shutdown Circuit Analysis Design/Licensing Basis, Rev. 0

Procedures

06MSE063, Modification to Penetration Seals in Control Building, Rev. 0
 07MSE237, Removal of Hydrostatic Requirement from Penetration Seals Between Cable Spreading Room Floor and Electrical Chases, Rev. 0, Chg. 6
 FPI.46, Response to Fire Protection Equipment Disablements, Rev. 2
 LSO565.06, Temporary Power Modification for RHR Loop Isolation Valves, Rev. 1, Chg. 1
 MS0599.16, Construction, Repair and Rework of Silicone Based Penetration Seals, Rev. 3.
 OE 3.6, Condition Reports, Rev. 15
 OS1201.01, RCP Malfunction, Rev. 14
 SM 7.20, Control of Time Critical Actions, Rev. 1, Chg. 3

Completed Tests/Surveillances

OX1400.02, Remote Safe Shutdown System 18 Month Operability Check, Rev. 6,
 Completed 4/30/08 & 5/03/2008
 OX0443.11, Fire Protection System 34 Flow Test, Rev. 5, Chg. 9, Completed 02/17/08
 OX0443.10, Fire Protection System 18M Flow Capacity Check, Rev. 0, Chg. 8,
 Completed 03/13/07
 OS0443.66, Safety Related Spray and Sprinkler Systems 18M Flow and System Alarms Test,
 Rev. 4, Chg. 9, Completed 08/27/07
 OX0443.93, Diesel Generator 'A' Fire Detection Trip Actuating Device Operational Test,
 Rev. 1, Chg. 9, Completed 01/20/08
 OX0443.95, 'A' and 'B' Electrical Tunnels and Emergency Feedwater Pump House Fire
 Detection Trip Actuating Device Operational Test, Rev. 1, Chg. 7, Completed
 12/14/07
 OX0443.90, Control Building Fire Detection Trip Actuating Device Operational Test, Rev. 1,
 Chg. 13, Completed 11/20/07
 FPI.23, Rescue Equipment Quarterly Inspection, Rev. 3, Completed 06/04/08
 ON0443.35, Fire Brigade Ready Area Inventory, Rev. 5, Chg. 12, Completed 06/19/08
 OS0443.61, Fire Protection Weekly Inspection Safety Related Areas, Rev. 7, Chg. 12,
 Completed 06/30/08 and 07/07/08
 ON0443.22, Portable Fire Extinguisher Monthly Inspection, Rev. 9, Chg. 10,
 Completed 06/16/08
 IS1642.951, FP-CP-176 Fire Pump House Fire Detection Sensitivity Test, Rev. 5,
 Chg. 3, Completed 06/10/08
 IS1642.901, FP-CP-176 Fire Pump House Fire Detection Testing, Rev. 3, Chg. 5,
 Completed 06/26/07
 MX0599.06, 6-Month Surveillance and Post-Maintenance Inspection of Technical Requirements
 Fire-Rated Doors, Rev. 4, Chg. 2, Completed 06/27/08 and 03/20/08
 ON0443.41, Fire Protection System Non-Safety Related Monthly Valve Alignment Check and
 Fire Pump Fuel Oil Tank Drain, Rev. 6, Chg. 18, Completed 06/29/08
 OS0443.74, Fire Pumps Annual Test, Rev. 4, Chg. 7, Completed 06/17/07
 OX0443.01, Diesel Fire Pump Weekly Test, Rev. 7, Chg. 10, Completed 06/29/08
 OX0443.02, Electric Fire Pump Weekly Test, Rev. 7, Chg. 20, Completed 07/02/08
 OX0443.03, Fire Protection System Monthly Valve Alignment Check, Rev. 8, Chg. 7,
 Completed 07/07/08
 OX0443.13, Fire Pumps 18 Month Auto Start Test, Rev. 0, Chg. 5, Completed 08/11/07

OS0443.36, Fire Pump House Weekly Valve Alignment, Rev. 6, Chg. 2,
Completed 07/02/08
OS0443.108, FP-P-374, Fire Protection Booster Pump 18 Month Operability Test, Rev. 1,
Chg. 1, Completed 04/26/08
OS0443.110, FP-P-374, Fire Protection Booster Pump Quarterly Operability Test, Rev. 0,
Chg. 8, Completed 07/08/08
ON0443.29, Semi-Annual Halon 1301 Quantity Verification, Rev. 3, Chg. 5,
Completed 05/03/08
ON0443.30, Annual Halon 1301 Inspection and Test, Rev. 3, Chg. 7,
Completed 01/23/08
OS0443.39, Wet Sprinkler Systems 18 Month Flow and Alarm Test, Rev. 6, Chg. 18,
Completed 01/08/08
OS0443.65, Diesel Generator Building 'A' and 'B' Train Sump Wet Sprinkler 18 Month Test,
Rev. 4, Chg. 5, Completed 02/03/08
OX0443.06, Deluge and Preaction Sprinkler Valve 18 Month Actuation Test, Rev. 7,
Chg. 5, Completed 11/25/07
OX0443.12, Fire Protection Dry Pipe Spray and Sprinkler Systems 18 Month Inspection,
Rev. 6, Chg. 4, Completed 01/09/08
OX0443.14, Fire Protection 3 Year Open Head Spray Nozzle and Header Air Flow Test,
Rev. 5, Chg. 12, Completed 04/29/07
OS1400.03, Remote Safe Shutdown Annual Equipment Inventory Surveillance, Rev. 6,
Chg. 8, Completed 06/27/08
LX0556.20, Diesel Fire Pump batteries Weekly Surveillance, Rev. 2, Chg. 9,
Completed 07/03/08

Quality Assurance (QA) Audits and Self Assessments

SBK-07-04, Triennial Fire Protection Functional Area Audit dated August 3, 2007
QRNO 08-0033, OR 12 Fire Protection Program Assessment, May 5, 2008
QRNO 07-0047, Assessment of Annual Fire Brigade Hands-On Training, June 15, 2007
QRNO 07-0046, Fire Detection System, July 9, 2007
QRNO 07-0042, Appendix R Emergency Lighting, May 31, 2007

System Health Reports

1st and 2nd Quarter 2008

Drawings and Wiring Diagrams

1-NHY-310002, Unit Electrical Distribution One Line Diagram, Rev. 40
1-NHY-310004, 13800V Switchgear Bus 1-1 One Line Diagram, Rev. 16
1-NHY-310005, 13800V Switchgear Bus 1-2 One Line Diagram, Rev. 17
1-NHY-310007, 4160 Switchgear Bus 1-E5 One Line Diagram, Rev. 20
1-NHY-310008, 4160 Switchgear Bus 1-E6 One Line Diagram, Rev. 17
1-NHY-310009, 4160V Switchgear Buses 1-3 & 1-4 One Line Diagram, Rev. 14
1-NHY-310014, 480V Unit Substation Buses 1-E61 & 1-E62 One Line Diagram, Rev. 17
1-NHY-310052, 480V Unit Substation Buse1-E63 One Line Diagram, Rev. 16

- 1-NHY-310882, Schematic Diagram RC System Letdown Isolation Valve LCV-459, Sheet E89/17a, Rev. 3
- 1-NHY-310882, Cable Schematic RC System Letdown Isolation Valve LCV-459, Sheet E89/17c, Rev. 2
- 1-NHY-310882, Control Wiring Diagram RC System Letdown Isolation Valve LCV-459, Sheet E89/17e, Rev. 0
- 1-NHY-310890, Schematic Diagram Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-138, Sheet B31a, Rev. 14
- 1-NHY-310890, Cable Schematic Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-138, Sheet B31c, Rev. 12
- 1-NHY-310890, Control Wiring Diagram Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-138, Sheet B31e, Rev. 2
- 1-NHY-310890, Schematic Diagram Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-139, Sheet B32a, Rev. 14
- 1-NHY-310890, Cable Schematic Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-139, Sheet B32c, Rev. 14
- 1-NHY-310890, Control Wiring Diagram Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-139, Sheet B32e, Rev. 3
- 1-NHY-310890, Control Wiring Diagram Charging Pump Supply to RCS Cold Leg Isolation Valve 1-V-139, Sheet B32f, Rev. 1
- 1-NHY-310891, Schematic Diagram CVCS Tank Outlet Isolation Valve 1-LCV-112B, Sheet B50a, Rev. 10
- 1-NHY-310891, Cable Schematic CVCS Tank Outlet Isolation Valve 1-LCV-112B, Sheet B50c, Rev. 7
- 1-NHY-310891, Schematic Diagram CVCS Tank Outlet Isolation Valve 1-LCV-112B, Sheet B50d, Rev. 1
- 1-NHY-310891, Control Wiring Diagram CVCS Tank Outlet Isolation Valve 1-LCV-112B, Sheet B50g, Rev. 2
- 1-NHY-310891, Schematic Diagram CVCS Tank Outlet Isolation Valve 1-LCV-112C, Sheet B83a, Rev. 11
- 1-NHY-310891, Cable Schematic CVCS Tank Outlet Isolation Valve 1-LCV-112C, Sheet B83c, Rev. 8
- 1-NHY-310891, Schematic Diagram CVCS Tank Outlet Isolation Valve 1-LCV-112C, Sheet B83d, Rev. 2
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- 1-NHY-310891, Control Wiring Diagram CVCS Tank Outlet Isolation Valve 1-LCV-112E, Sheet B79g, Rev. 1
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- 1-NHY-310891, Schematic Diagram CS System A Train Non-Vital Control, Sheet E97/11c, Rev. 3
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B4Qa, Rev. 2
- 1-NHY-310895, Schematic Diagram PCCW Loop B Pump 1-P-11B, Sheet A78b, Rev. 10
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- 1-NHY-310895, Control Wiring Diagram PCCW Loop B Pump 1-P-11B, Sheet A78j, Rev. 1
- 1-NHY-310895, Control Wiring Diagram PCCW Loop B Pump 1-P-11B, Sheet A79k, Rev. 1
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- 1-NHY-311868, Cable Schematic Sound Powered Telephone System Loop, Sheet RSSa, Rev.3
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- 1-NHY-350000, Control Building Appendix 'R' 8 Hour Emergency LTG, EL 75'0", Rev. 4
- 1-NHY-350001, Control Building Appendix 'R' 8 Hour Emergency LTG, EL 21'6", Rev. 3
- 1-NHY-350002, Non-Essential Switchgear Room Appendix 'R' 8 Hour Emergency LTG, EL 21'6",
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- 1-NHY-350003, Diesel Generator Building Appendix 'R' 8 Hour Emergency LTG, EL 21'6" &
(-) 16'0", Rev. 4
- JGK/LB-9, Fire Wrap, Rev. 1
- JGK/LB-8, Fire Wrap, Rev. 3
- 3TF/LA-1, Fire Wrap, Rev. 3
- 3UG/LB-1, Fire Wrap, Rev. 2
- 3QQ/RA-1A, Fire Wrap, Rev. 2
- 3QQ/RA-2A, Fire Wrap, Rev. 0
- 3QQ/RA-3A, Fire Wrap, Rev. 3
- 3SL/RB-1A, Fire Wrap, Rev. 2
- CB-021-CB101-1008, Penetration Seal Design, Rev. 2
- CB-050-CB201-5009.1B, Penetration Seal Design, Rev. 0
- CB-021-CB105-3022, Penetration Seal Design, Rev. 1
- CB-021-CB105-3023, Penetration Seal Design, Rev. 1
- MF-021-EM103-5003B, Penetration Seal Design, Rev. 1
- MF-000-MF201-2004, Penetration Seal Design, Rev. 5
- CB-021-CB102-3002, Penetration Seal Design, Rev. 0

Piping and Instrumentation Diagrams

1-CBA-B20300, Control Building Air Handling Overview, Rev. 4
 1-CBA-B20302, Control Building Air Handling Emergency Switchgear Area Detail, Rev. 4
 1-CBA-B20303, Control Building Air Handling Detail, Rev.19
 1-CC-B20204, Primary Component Cooling Loop A Overview, Rev. 4
 1-CC-B20205, Primary Component Cooling Loop A Detail, Rev. 24
 1-CC-B20207, Primary Component Cooling Loop A Detail, Rev. 12
 1-CC-B20209, Primary Component Cooling Thermal Barrier Loop A Detail, Rev. 10
 1-CS-B20720, Chemical and Volume Control System Overview, Rev. 4
 1-CS-B20722, Chemical and Volume Control System Heat Exchangers Detail, Rev. 13
 1-CS-B20723, Chemical and Volume Control System Purification Detail, Rev. 19
 1-CS-B20724, Chemical and Volume Control System Letdown Degasifier Detail, Rev. 16
 1-CS-B20725, Chemical and Volume Control System Charging System Detail, Rev. 26
 1-CS-B20726, Chemical and Volume Control System Seal Water Detail, Rev. 20
 1-CS-B20729, Chemical and Volume Control System Boric Acid Detail, Rev. 16
 1-FP-B20264, Fire Protection Overview, Rev. 15
 1-FP-B20266, Fire Pump House Detail, Rev. 23
 1-FP-B20268, Fire Protection - Standpipe Detail, Rev. 15
 1-FP-B20271, Fire Protection Details, Rev. 21
 1-FP-B20272, Fire Protection Details, Rev. 10
 1-FW-B20684, Feedwater System Overview, Rev. 9
 1-FW-B20685, Feedwater System Overview, Rev. 4
 1-FW-B20686, Feedwater System Details, Rev. 12
 1-FW-B20688, Emergency Feedwater System Details, Rev. 19
 1-MS-B20579, Main Steam System Overview, Rev. 8
 1-MS-B20580, Main Steam Headers Detail, Rev. 10
 1-MS-B20581, Main Steam Headers Detail, Rev. 11
 1-MS-B20582, Main Steam Emergency Feedwater Pump Supply Details, Rev. 19
 1-RC-B20840, Reactor Coolant System Overview, Rev. 6
 1-RC-B20841, Reactor Coolant System Loop No. 1, Rev. 21
 1-RC-B20842, Reactor Coolant System Loop No. 2, Rev. 12
 1-RC-B20843, Reactor Coolant System Loop No. 3, Rev. 15
 1-RC-B20844, Reactor Coolant System Loop No. 4, Rev. 18
 1-RC-B20845, Reactor Coolant System Reactor Vessel, Rev. 14
 1-RC-B20846, Reactor Coolant System Pressurizer, Rev. 14
 1-RH-B20660, Residual Heat Removal System Overview, Rev. 3
 1-RH-B20662, Residual Heat Removal System Train A Detail, Rev. 22
 1-RH-B20663, Residual Heat Removal System Train B Cross-Tie Detail, Rev. 18
 1-SI-B20447, Safety Injection System High Head Injection Detail, Rev.14
 1-SW-B20792, Service Water System Overview, Rev. 6
 1-SW-B20794, Service Water System Nuclear Detail, Rev. 33
 1-SW-B20795, Service Water System Overview, Rev. 37

Pre-Fire Plans

Control Room (CB-F-3A-A)

'A' Electrical Tunnel (ET-F-1A-A, ET-F-1B-A)

'A' Emergency Diesel Generator (DG-F-1A-A, DG-F-2A-A, DG-F-3A-Z, DG-F-3C-A)

Non-essential Switchgear Room (NES-F-1A-Z)

Fire Drills and Critique

Fire Drill Evaluation and Critique, "Fire in CBA-F-8038," Shift C, unannounced, 04/20/07

Fire Drill Evaluation and Critique, "Smoke in 'D' RCP Fire Cabinet," Shift F, announced, 07/17/07

Fire Drill Evaluation and Critique, "Fuel Oil Fire Shuts Diesel Down," Shift F, unannounced, 02/29/08

Fire Drill Evaluation and Critique, "Smoke from 'A' Steam Generator Feedpump Room Exhaust Fan," Shift E, announced, 02/29/08

Fire Drill Evaluation and Critique, "Smoke from 'B' Primary Component Cooling Water Pump Motor," Shift A, announced, 01/30/08

Fire Drill Evaluation and Critique, "Acetylene Cylinder in Compressed Gas Storage Location Ignites," Shift B, announced, 03/21/08

Fire Drill Evaluation and Critique, "Service Water Pump House Cable Tray Fire," Shift C, announced, 01/04/08

Fire Drill Evaluation and Critique, "Waste Processing Building Truck Bay 25' Fire at Unit Substation 480V Bus," Shift D, announced, 01/11/08

Fire Drill Evaluation and Critique, "21' Turbine Building Fire," Shift E, unannounced, 05/16/08

Fire Brigade Training

Qualification and Drill Records for All Individuals

Operator Safe Shutdown Training

Instructor Guide 8210, Response to Fire, Safe Shutdown, January 30, 2008

Slide Presentation for 8210C, Fire and Safe Shutdown Continuing Training

Slide Presentation for 8210I, Fire and Safe Shutdown Initial Training

Hot Work and Ignition Source Permits

CMP 08-2604

CMP 08-2600

CMP 08-2594

ISP 08-2295

ISP 08-2308

ISP 08-2298

Miscellaneous Documents

3M Conduit Wrap Details, Rev. 8

Fire Hazard Analysis, "DG-F-3C-A Diesel Generator Building," Rev. 7

Fire Hazard Analysis, "DG-F-3A-Z Diesel Generator Building," Rev. 9
 Fire Hazard Analysis, "DG-F-2A-A Diesel Generator Building," Rev. 9
 Fire Hazard Analysis, "DG-F-1A-A Diesel Generator Building," Rev. 8
 Fire Hazard Analysis, "ET-F-S1-0 Electrical Tunnel," Rev. 6
 Fire Hazard Analysis, "ET-F-1B-A Electrical Tunnel," Rev. 6
 Fire Hazard Analysis, "ET-F-1A-A Electrical Tunnel," Rev. 6
 Fire Hazard Analysis, "NES-F-1A-Z Nonessential Switchgear Room," Rev. 6
 Fire Hazard Analysis, "CB-F-3A-A Control Room," Rev. 6
 Fire Protection LCO Report dated 7/11/2008
 Fire Patrol Rounds Tracking Record
 Fire Protection Work Order Status dated 7/11/2008
 Seabrook Daily Operating Report for July 31, 2008

Condition Reports (* CR initiated during this inspection)

98-10790	07-07394	08-02024	08-10677*
05-09081	07-10202	08-03799	08-10732*
05-08472	07-10209	08-04425	08-10747*
05-08673	07-10993	08-04504	08-10812*
05-10303	07-12114	08-06340	08-10965*
06-02443	07-13496	08-08290	08-11000*
06-15112	07-14078	08-08749	08-11007*
07-02415	07-14253	08-09466	08-11024*
07-02904	07-14642	08-10220	
07-04726	07-14930	08-10380*	
07-06483	07-15444	08-10460*	

Work Orders

0407604	0638512	0724964	0800791
0407605	0642506	0729201	0800797
0446284	0645273	0732107	0800798
0500314	0645294	0736104	0800801
0527660	0703874	0736333	0800809
0545169	0708519	0736486	0801823
0616060	0709766	0737024	0803546
0616065	0709987	0737538	0803584
0616069	0712885	0737679	0805122
0616070	0715236	0738257	0807159
0616176	0717678	0738258	0815212
0622896	0721416	0738416	0821120
0624421	0721424	0738477	0821340
0628326	0723113	0738948	
0636655	0723901	0800765	
0638383	0724876	0800785	

LIST OF ACRONYMS

AC	Alternating Current
BTP	Branch Technical Position
CFR	Code of Federal Regulations
CMEB	Chemical Engineering Branch
DRS	Division of Reactor Safety
DRP	Division of Reactor Projects
FA	Fire Area
FHA	Fire Hazards Analysis
FPP	Fire Protection Program
IP	Inspection Procedure
IPE	Individual Plant Examination
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory commission
PAR	Publicly Available Records
P&ID	Piping and Instrumentation Drawing
QA	Quality Assurance
SER	Safety Evaluation Report
UFSAR	Updated Final Safety Analysis Report