

April 12, 2007

Mr. Theodore A. Sullivan
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION - NRC TRIENNIAL FIRE
PROTECTION INSPECTION REPORT 05000271/2007008

Dear Mr. Sullivan:

On March 29, 2007, the NRC completed a triennial fire protection team inspection at your Vermont Yankee Nuclear Power Station. The enclosed report documents the inspection results which were discussed at an exit meeting on March 29, 2007, with Mr. W. Maguire 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.

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Sincerely,

/RA/

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

Docket No. 50-271
License No. DPR-28

Enclosure: NRC Inspection Report 05000271/2007008

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 Site Vice President
 Entergy Nuclear Operations, Inc.
 Vermont Yankee Nuclear Power Station
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SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION - NRC TRIENNIAL FIRE PROTECTION INSPECTION
 REPORT 05000271/2007008

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T. Sullivan

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-271

License No. DPR-28

Report No. 05000271/2007008

Licensee: Entergy Nuclear Operations, Inc.

Facility: Vermont Yankee Nuclear Power Station

Location: 320 Governor Hunt Road
Vernon, Vermont 05354-9766

Dates: March 12 - March 29, 2007

Inspectors: K. Young, Senior Reactor Inspector, DRS
L. Scholl, Senior Reactor Inspector, DRS
J. Bobiak, Reactor Inspector, DRS

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

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SUMMARY OF FINDINGS

IR 05000271/2007008; 03/12/2007 - 03/29/2007; Entergy Nuclear Operations, Inc.; Vermont Yankee Nuclear Power Station; Triennial Fire Protection Team Inspection.

The report covered a two-week triennial fire protection team inspection by three Region I specialist inspectors. 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 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 Entergy Nuclear Operations, Inc., has implemented an adequate fire protection program and that post-fire safe shutdown capabilities have been established and are being properly maintained at the Vermont Yankee Nuclear Power Station (VYNPS). The following fire areas (FAs) and fire zones (FZs) were selected for detailed review based on risk insights from the VYNPS Individual Plant Examination (IPE)/Individual Plant Examination of External Events (IPEEE):

- Fire Area ASD, FZ - 2
- Fire Area FA5
- Fire Area RB, FZ RB-5
- Fire Area TB, FZ-6/FZ-7

The inspection team evaluated the licensee's fire protection program (FPP) against applicable requirements which included plant technical specifications, operating license condition 3.F, NRC safety evaluation reports, 10 CFR 50.48 and 10 CFR 50, Appendix R. The team also reviewed related documents that included the Updated Final Safety Analysis Report (UFSAR), the fire hazards analysis (FHA) and the safe shutdown capability analysis (SSCA).

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

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems

1R05 Fire Protection

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

a. Inspection Scope

Methodology

The team reviewed the safe shutdown analysis, operating procedures, piping and instrumentation 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 activities focused on ensuring the adequacy of systems selected for reactivity control, reactor coolant

Enclosure

makeup, reactor decay heat removal, process monitoring instrumentation and support systems functions. The team verified that the systems and components credited for use during post-fire safe shutdown 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 were trained, available onsite at all times, and exclusive of those assigned as fire brigade members.

The team reviewed the adequacy of procedures utilized for post-fire safe 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 operators could reasonably be expected to perform specific actions within the time required to maintain plant parameters within specified limits. Time critical actions which were verified included restoring alternating current (AC) electrical power, establishing remote shutdown panel operation, 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:

- OP 3126, Shutdown Using Alternate Shutdown Methods, Revision 18
- OP 3020, Fire Emergency Response Procedure, Revision 53

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 periodic testing records of the alternative shutdown transfer capability and instrumentation and control functions to ensure the tests demonstrated 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 fire hazards analysis, safe shutdown analyses and supporting drawings and documentation to verify that safe shutdown capabilities were properly protected. The team ensured that separation requirements of 10 CFR 50, Appendix R, Section III.G, were maintained for the credited safe shutdown equipment including 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 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.

The team also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the fire protection program and/or post-fire safe shutdown analysis and procedures.

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 the material condition and design adequacy of fire area boundaries (including walls, fire doors and dampers), and electrical raceway fire barriers to ensure they were appropriate for the fire hazards within 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 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 deviations, and that each suppression system would control or extinguish fires associated for the hazards in the selected areas. A review of the design capability of suppression agent delivery systems was verified to meet the code requirements for the fire 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 support equipment in other areas (e.g., fire pumps, carbon dioxide (CO₂) storage tanks and supply system) and assessed 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 records and drill critique records. The team 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. In addition, the team inspected the fire brigade's protective ensembles and various fire brigade equipment (including smoke removal equipment) to verify fire fighting readiness.

b. Findings

No findings of significance were identified.

.05 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

The team reviewed documents and walked down the selected fire areas to verify that redundant trains of systems required for hot shutdown were not subject to damage from

fire suppression activities or from the rupture or 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 safe shutdown trains (e.g., sprinkler caused flooding of other than the locally affected train).
- Adequate drainage was provided in areas protected by water suppression systems.

b. Findings

No findings of significance were identified.

.06 Alternative Shutdown Capability

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

.07 Circuit Analyses

a. Inspection Scope

The team verified that the licensee performed a post-fire safe shutdown analysis for the selected fire areas and that the analysis appropriately identified the structures, systems and components important to achieving and maintaining post-fire safe shutdown. Additionally, the team verified that 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, spurious actuations, and actuations that could result in a loss of coolant event.

The team also reviewed cable routing data sheets and wiring diagrams for a sample of components to verify that all necessary cables had been included in the safe shutdown analysis and that the routing ensures safe shutdown equipment cables remain free from fire damage.

Cable failure modes were reviewed for the following components:

- 4160 Volt Circuit Breaker 3V - Tie to Switchgear 4
- 4160 Volt Circuit Breaker 4V - Tie to Switchgear 3
- 4160 Volt Circuit Breaker 3V4 - Vernon Station Line
- RHR Reactor Shutdown Cooling Isolation Valve V10-17 (Outboard)
- RHR Reactor Shutdown Cooling Isolation Valve V10-18 (Inboard)
- Suppression Chamber Water Temperature Indicator TI-16-19-33A
- Safety Relief Valve RV-2-71A - Steam Line "A"

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 the coordination studies 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 SSCA 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 plant operators. The team also verified that communications equipment such as repeaters and transmitters 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 and evaluated 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 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

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 specific in their design and licensing bases. The inspectors verified that the repair equipment, components, tools and materials (e.g. pre-cut cables with prepared attachment lugs) were available and accessible on site.

.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, 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 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

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 completed or planned appropriate corrective actions.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On March 29, 2007, the team presented the inspection results to Mr. W. Maguire, General Manager of Plant Operations, and other members of the site staff. No proprietary information was included in this inspection report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Entergy Nuclear Operations, Inc.

T. Sullivan	Site Vice President
W. Maguire	General Manager of Plant Operations (GMPO)
N. Rademacher	Director of Engineering
M. Anderson	Fire Protection Engineer
J. Callaghan	Design Manager
P. Corbett	Programs Engineering Manager
M. Desilets	Training Manager
J. Devincentis	Manager Licensing
J. Dreyfuss	Director Nuclear Safety
R. Felumb	Corrective Action Manager (Acting)
B. Finn	Corrective Action Manager
M. Hamer	Licensing
E. Harms	Operations Manager
P. Johnson	Senior Principal Engineer (Appendix R)
L. Kitchen	Maintenance Manager
L. Lukens	Projects Supervisor
P. O'Malley	Manager Quality Assurance
S. Nelson	Fire Protection Instructor
W. Pittman	Assistant Operations Manager
M. Pletcher	Operations/STA/Fire Brigade Leader
K. Pushee	RP Manager
S. Wender	Chemistry Superintendent

NRC

J. Rogge, Chief, Engineering Branch 3, Division of Reactor Safety
W. Cook, Senior Reactor Analyst, Division of Reactor Safety
D. Pelton, Senior Resident Inspector, VYNPS
B. Sienel, Resident Inspector, VYNPS

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Open and Closed

NONE

Closed

NONE

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Fire Protection Licensing Documents

- NRC SER, Fire Protection SER of the Fire Hazards Survey, January 13, 1978
- NRC SER, January 22, 1980
- NRC SER, February 20, 1980
- NRC SER, October 24, 1980
- NRC SER, Safety Evaluation for Appendix R to 10 CFR Part 50, Items III.G.3 and III.L, January 13, 1983
- NRC SER, Safety Evaluation for Appendix R 10 CFR Part 50, Items III.G.3 and III.L, (Supplemental) July 24, 1984
- Letter to VY, Vermont Yankee Fire Protection Review Evaluation of Design Details and Incomplete Items, April 15, 1980
- Letter to VY, Exemption Pertaining to Requirement for Fixed Fire Suppression in the Control Room, May 10, 1982
- Letter to VY, Exemption From Appendix R to 10 CFR 50 Concerning Automatic Fire Suppression, Separation, and Repairs, December 1, 1986
- Letter to VY, Issuances of Exemptions to 10 CFR 50, Appendix R, Section III.J Emergency Lighting and Section III.G.2.a, Separation, June 26, 1989
- Letter to VY, Alternative Testing Method for Cable Vault CO₂ Fire Suppression System for Vermont Yankee Nuclear Power Station, November 29, 1990
- Letter to VY, Vermont Yankee Nuclear Power Station (Revocation of 8 Hour Emergency Lights in Areas of Reactor Building Exemption), August 30, 1995
- Letter to VY, Vermont Yankee Nuclear Power Station (Fire Resistant Cables Exemption), June 5, 1997
- Letter to VY, Vermont Yankee Nuclear Power Station, (ADS/LPCI Exemption), August 12, 1997
- Letter to VY, Removal of Fire Rating on Control Room (Floor)/Cable Vault (Ceiling) Electrical Penetration barrier, Re-Designation of control Room, Cable Vault and Battery Room Into Single Fire Area at VY Nuclear Power Station, September 2, 1998

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TIA, 2/17/99, Proposed TIA for Acceptability of CO₂ Total Flooding Fire Suppression System Testing Without Full Discharge Test
Letter Dated 11/17/99, Proposed TIA Regarding the Acceptability of CO₂ Total Flooding Fire Suppression Systems Testing Without Full Discharge Test

Calculations/Engineering Evaluation Reports

EDCR 93-401
EDCR 96-407
ER 05-400, Replace Hemyc Firewrap with 3M Firewrap, Rev. 0
FPEE 26, Fire Seal Evaluation for Penetrations in One Hour Fire Rated Walls Separating the East and West Switchgear Rooms, Rev. 2
FPEE 66, Fire Pump Code Deviations, 07/11/01
FPEE 67, MG Set Foam System Deviations, 07/11/01
FPEE 70, Evaluation of Three Hour Rated 3M Fire Wrap, Rev. 0
FPEE 74, Diesel Driven Fire Pump Partial Height Wall, 03/10/93
JO 96-0150
JO 96-0151
MM 96-038, Fire Damper Replacement, 09/13/96
PDC 78-7, Recirc. MG Sets Foam Suppression System
SEP-FP-001, Combustible Loading Worksheets, Rev. 1
Topical Design Basis Document for Internal Flooding, Rev. 8
Vermont Yankee Safe Shutdown Capability Analysis, Rev. 8
VY-FP-07-0001, Diesel Generator Room Manual Fire Suppression, Rev. 0
VYC-1087A, 4KV Safety Related Motor Breaker Coordination, Rev. 0
VYC-1087B, 4160 VAC and 480 VAC Relay and Breaker Coordination, Rev. 0
VYC-1188, 125 VDC Relay and Circuit Breaker Coordination, Rev. 1
VYC-1247, 120V AC Circuit Breaker Coordination
VYC-1344, Service Water System Fire System Orifice, Rev. 0
VYC-1486, Appendix R Load Verification - Vernon Tie, Rev. 0
VYC-1507, Appendix R Safe Shutdown Analysis for Vermont Yankee Nuclear Power Station, Rev. 1
VYC-1512, Station Blackout Voltage Drop and Short Circuit Study, Rev. 2 (Including Changes 01 and 02
VYC-1532, Verification and Validation of VY Switchgear Rooms Fire Protection Low Press. CO₂ System and High Press. CO₂ Cable Vault System, Rev. 1
VYC-1533, VY Switchgear Rooms Fire Protection CO₂ System Concentration and Hold Times, Rev. 2
VYC-2270, VY GE 14 Appendix R at 20% Power Uprate, Rev. 0
VYC-2374, Suppression Pool Temperature for Appendix R Without Containment Overpressure, Rev. 0
VYC-1854, MCC 08, 06/14/05

Procedures

AP 0042,	Plant Fire Prevention and Fire Protection, Rev. 46
AP 3770,	Fire Training, Rev. 16
AP 4000,	Surveillance Testing Program, Rev. 24
EN-DC-127,	Control of Hot Work and Ignition Sources, Rev. 2
ENN-DC-128,	Fire Protection Impact Reviews, Rev. 1
ENN-DC-161,	Transient Combustible Program, Rev. 1
OP 0046,	Installation and Repair of Fire Barriers, Penetration Seals, Fire Breaks, and Flood Seals, Rev. 12
OP 0150.01,	Auxiliary Operator Round Sheet Outside, Rev. 169
OP 2146,	Operation of Station and Alternate Shutdown System 125 Volt Battery Chargers, Rev. 21
OP 3020,	Fire Emergency Response Procedure, Rev. 53
OP 3126,	Shutdown Using Alternate Shutdown Methods, Rev. 18
OP 4001,	Plant Fire Extinguisher Service and Issue, Rev. 9
OP 4002,	Integrity Surveillance of Fire Detectors and Fire Suppression Systems, Rev. 14
OP 4019,	Surveillance of Plant Fire Barriers and Fire Rated Assemblies, Rev. 23
OP 4103,	Fire Protection Equipment Surveillance, Rev. 41
OP 4104,	Fire Hose Hydro Test Surveillance, Rev. 16
OP 4105,	Fire Protection Systems Surveillance, Rev. 41
OP 4107,	EOP/Alternate Shutdown Tools and Supplies Surveillance, Rev. 11
OP 4217,	Alternate Shutdown Battery AS-2, Rev. 11
OP 4221,	Surveillance of Gas Fire Extinguishing Systems, Rev. 15
OP 4339,	Surveillance of Fire Protection Detectors/Instruments, Rev. 36
OP 4392,	Trip Test of Fire System Water Flow Alarms, Rev. 17
OP 4393,	Test of the Cable Vault, Switchgear Rooms, and Intake Structure CO2 Systems, Rev. 20
OP 4602,	Sampling of Firefighting Foam for Annual Analysis, Rev. 7
OP 4800,	General Safety Surveillance, Rev. 36
PP 7011,	Vermont Yankee Fire Protection and Appendix R Program, Rev. 7
RP 5276,	Alternate Shutdown AS-1 Battery Modified Performance Test

Completed Tests/Surveillances

OP 4019,	Surveillance of Plant Fire Barriers and Fire Rated Assemblies, Completed, 01/23/01, 07/11/01, 08/29/05 and 03/29/06
OP 4105.01,	Fire Protection Systems Surveillance, Completed 11/06/06, 12/04/06 and 01/01/07
OP 4105.02,	Fire Protection Systems Surveillance, Completed 04/07/05, 04/18/06 and 09/15/06
OP 4105.03,	Fire Protection Systems Surveillance, Completed 07/18/05, 7/11/06 and 08/08/06
OP 4105.04,	Fire Protection Systems Surveillance, Completed 08/13/05 and 05/28/06
OP 4105.05,	Fire Protection Systems Surveillance, Completed 05/06/05

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OP 4105.06, Fire Protection Systems Surveillance, Completed 07/14/05
OP 4105.07, Fire Protection Systems Surveillance, Completed 10/12/06
OP 2124, Residual Heat Removal System, Rev. 110
OP 4121, RCIC System Surveillance, Rev. 41, Completed 5/9/00, 10/15/01,
10/16/02, and 12/22/04
OP 4124, RHR & RHR Service Water System Surveillance, Rev. 52, Completed
5/7/01, 10/9/02, and 10/18/05
OP 4339, Surveillance of Fire Protection Detectors/Instruments, Completed,
03/16/06, 06/23/06, 08/15/06 and 02/15/07
OP 4800, General Safety Surveillance, Completed 10/10/05 and 11/17/05
Foam Sample Test Result, March 1, 2007

Quality Assurance (QA) Audits and System Health Reports

Fire Protection SHR 3rd Quarter 2006, 4th Quarter 2006
QA-09-2006-VY-1, Fire Protection, 1/9/06 - 1/29/06
QS-2006-VY-006, Audit Report, 90 Day Followup to the Fire Protection Audit, 6/2/06
Sentry Lights SHR 4th Quarter 2006

Control Wiring Diagrams (CWDs)

B-191301, Sh. 306, 4KV SWGR #3 Instr & Relaying, Rev. 16
B-191301, Sh. 307, 4KV SWGR #3 Instr & Relaying, Rev. 6
B-191301, Sh. 308, 4KV SWGR #3 Instr & Relaying, Rev. 12
B-191301, Sh. 311, 4KV SWGR #4 Instr & Relaying, Rev. 15
B-191301, Sh. 312, 4KV SWGR Transducers, Rev. 4
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Drawings

B-191500, Sh. 2,	Fire Barrier Seal Drawing, 269, 270, 278, 286
G-191163, Sh. 1-4,	Flow Diagram Fire Protection Systems
G-191298, Sh. 1,	345KV & 22KV One Line Diagram, Rev. 40
G-191299,	4KV Auxiliary One Line Diagram, Rev. 27
G-191300, Sh.1,	480V Aux. One Line Diag. SWGR Bus 8, MCC-8A, 8C, Rev. 21
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G-191372, Sh. 1,	125V DC One Line Wiring Diagram, Rev. 65
G-191372, Sh. 2,	125V DC One Line Diagram, Rev. 24
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G-191157, Sh. 1-3,	Flow Diagram, Condensate Feedwater & Air Evacuation Systems
G-191159, Sh. 1-4,	Flow Diagram, Service Water System
G-191167,	Flow Diagram, Nuclear Boiler, Rev. 75
G-191168,	Flow Diagram, Core Spray System, Rev. 44
G-191169, Sh. 1-2,	Flow Diagram, High Pressure Coolant Injection System
G-191172,	Flow Diagram, Residual Heat Removal System, Rev. 66
G-191174, Sh. 1-2,	Flow Diagram, Reactor Core Isolation Cooling System

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Chemetron Fire Systems,	Operations and Service Manual for Low Pressure Carbon Dioxide 4, 6, and 8 Ton Steel Housed Storage Units," 10/78
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PFP-CB-2,	Cable Vault, 05/10/05
PFP-CB-3,	Switchgear Rooms, 05/10/05
PFP-IS,	Intake Structure
PFP-RB-5,	Reactor Building Elevation 280', 05/01/03
PFP-TB-3,	Laundry / H2 Detrainment, 05/01/03
PFP-TB-4,	Boiler Room, 05/10/05

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PFP-TB-5, Diesel Rooms, 05/01/03
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12/17/03	01/12/04	01/16/04	03/10/04	10/12/06
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Fire Drill Scenarios

Fire Brigade Drill Scenario #8,	Lube Oil Room, Rev. 2
Fire Brigade Drill Scenario #12,	Cable Vault / Battery Room, Rev. 1
Fire Brigade Drill Scenario #22,	Reactor Bldg. South (RB-6) Elevation 280', Rev. 1
Fire Brigade Drill Scenario #35,	Diesel Fire Pump Room, Rev. 0
Fire Brigade Drill Scenario #51,	Alternate Brigade Room Response, Rev. 0
Fire Brigade Drill Scenario #57,	West Switchgear Room, Rev. 1

Fire Brigade Training

Fire Brigade Drill Completion Tracking Matrix, 2006, March 2007
Fire Brigade Training Program, Rev. 9
Fire Brigade Training Self Assessment 2006
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JPM-20509, Initial Actions of Operator Number 2 Appendix B of OP 3126, Rev. 2
JPM-21701F, Operate RCIC From the Alternate Shutdown Panel, Rev. 4
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OP 3126, Timelines Surveillance for Crew "A," 1/3/07
OP 3126, Timelines Surveillance for Crew "D," 1/22/07

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01/31/07, Turbine Building 252'
02/20/07, Reactor Building 252'
02/26/07, Reactor Building 345'
02/28/07, Reactor Building 252'
02/28/07, Turbine Building 252'

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2007-009
2007-010
2007-011
2007-012
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Transient Combustible Evaluations

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LIST OF ACRONYMS USED

AC	Alternating Current
CFR	Code of Federal Regulations
CO ₂	Carbon Dioxide
DRS	Division of Reactor Safety
FA	Fire Area
FHA	Fire Hazards Analysis
FPP	Fire Protection Program
FZ	Fire Zone
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
SSCA	Safe Shutdown Capability Analysis
SUNSI	Sensitive Unclassified Non-Safeguards Information
UFSAR	Updated Final Safety Analysis Report
VYNPS	Vermont Yankee Nuclear Power Station