

July 6, 2006

Mr. Timothy J. O'Connor
Vice President Nine Mile Point
Nine Mile Point Nuclear Station, LLC
P.O. Box 63
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNITS 1 & 2 - NRC INSPECTION
REPORT NOS. 05000220/2006006 AND 05000410/2006006

Dear Mr. O'Connor:

On May 25, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed a triennial fire protection inspection at your Nine Mile Point Nuclear Station, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed on May 25, 2006, with you and other members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The purpose of the inspection was to evaluate your post-fire safe shutdown capability and fire protection program. 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.

The scope of the inspection was reduced for Unit 1, in accordance with Inspection procedure 71111.05TTP, issued May 9, 2006, as a result of your ongoing project to convert the Unit 1 fire protection program to the performance-based methodology described in National Fire Protection Association Standard 805.

In accordance with 10 CFR 2.790 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 NRC's document system (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the public Electronic Reading Room).

Sincerely,

/RA by Marsha K. Gamberoni for/

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

Docket Nos. 50-220, 50-410
License Nos. DPR-63, NPF-69

T. O'Connor

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Enclosure: Inspection Report Nos. 05000220/2006006 and 05000410/2006006
w/Attachment: Supplemental Information

cc w/encl:

M. J. Wallace, President, Constellation Generation

M. Heffley, Senior Vice President and Chief Nuclear Officer

C. W. Fleming, Esquire, Senior Counsel, Constellation Energy Group, LLC

M. J. Wetterhahn, Esquire, Winston and Strawn

P. Smith, President, New York State Energy, Research, and Development Authority

J. Spath, Program Director, New York State Energy Research and Development Authority

P. D. Eddy, Electric Division, NYS Department of Public Service

C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Supervisor, Town of Scriba

T. Judson, Central NY Citizens Awareness Network

D. Katz, Citizens Awareness Network

Distribution w/encl: (via E-mail)

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- E. Knutson, RI - Nine Mile Point
- K. Kolek, DRP, OA
- Region I Docket Room (with concurrences)
- ROPreports@nrc.gov
- A. Blough, DRS
- M. Gamberoni, DRS
- J. Rogge, DRS
- R. Fuhrmeister, DRP

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-220, 50-410

License Nos.: DPR-63, NPF-69

Report No.: 05000220/2006006, 05000410/2006006

Licensee: Nine Mile Point Nuclear Station, LLC

Location: P.O. Box 63
Lycoming, NY 13093

Dates: May 8-12, 2006 and May 22-25, 2006

Inspectors: R. Fuhrmeister, Senior Project Engineer, Division of Reactor Projects (DRP)
D. Werkheiser, Resident Inspector, Division of Reactor Projects (DRP)
K. Diederich, Reactor Inspector, Division of Reactor Safety (DRS)
S. Lewis, Reactor Inspector, DRS
M. Patel, Reactor Inspector, DRS

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

Enclosure

SUMMARY OF FINDINGS

IR 05000220/2006-006, 05000410/2006-006; 05/08/2006 - 05/25/2006; Nine Mile Point Nuclear Station Units 1 and 2; Fire Protection.

This report covers a two week triennial fire protection inspection, conducted by five specialist inspectors from the NRC's Region I office. 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

Background

This report presents the results of a triennial fire protection inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05TTP, "Fire Protection-NFPA 805 Transition Period," for Unit 1, and IP 71111.05T, "Fire Protection," for Unit 2. The objective of the inspection was to assess whether Nine Mile Point Nuclear Station, LLC has implemented an adequate fire protection program and that post-fire safe shutdown capabilities have been established and are being properly maintained at the Nine Mile Point Nuclear Station (NMPNS) facility. The following fire areas were selected for detailed review based on risk insights from the NMPNS Individual Plant Examination (IPE) and Individual Plant Examination for External Events (IPEEE):

NMPNS Unit 1

@C1
@C3
@T2A
@R2A

NMPNS Unit 2

@35
@52/79
@17
@18

Section 71111.05-05 of the inspection procedure specifies a minimum sample size of three. Inspection of these four areas in each unit fulfills the procedure completion criteria. The inspection team evaluated NMPNS's fire protection program (FPP) against applicable requirements which include plant Technical Specifications, Operating License Condition 2.D.7 (Unit 1) and 2.G (Unit 2), NRC Safety Evaluations, 10 CFR 50.48 and 10 CFR 50 Appendix R. The team also reviewed related documents that include the Updated Final Safety Analysis Report (UFSAR), Appendix 9A (Unit 1) and 9B (Unit 2), Fire Hazards Analysis (FHA), and Post-Fire Safe Shutdown (SSD) Evaluations.

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

1. REACTOR SAFETY

1RO5 Fire Protection

1. Shutdown From Outside Main Control Room

a. Inspection Scope

Methodology

The team reviewed NMPNS's Fire Hazards Analysis, Safe Shutdown Evaluation, and the UFSAR to determine the methods and equipment that NMPNS used to achieve safe shutdown following postulated fires. The team assessed the adequacy of the selected systems for reactivity control, reactor coolant makeup, reactor decay heat removal, process monitoring instrumentation, and support system functions. In addition, the team evaluated NMPNS's fire response procedures and operating procedures for the selected

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fire areas to assess the methods and equipment used to achieve safe shutdown following a fire. The team's review included piping and instrumentation drawings (P&IDs), electrical drawings, and other supporting documents for post-fire safe shutdown systems to identify required components for establishing flow paths, to identify equipment required to isolate flow diversion paths, and to verify whether appropriate components were included in the safe shutdown equipment list.

The team evaluated whether 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. The evaluation also verified whether shutdown from outside the control room could be performed both with and without the availability of offsite power. The team performed plant walkdowns to determine whether the plant configuration was consistent with that described in the safe shutdown and fire hazards analyses. The team assessed the systems and components credited for use for safe shutdown from outside the control room, to verify whether they would remain free from fire damage. The team evaluated selected safe shutdown components and their power and control circuits to determine whether proper isolation and alternate power sources were provided for those components to verify whether alternate shutdown control would be affected by fire-induced circuit faults, in the event of a fire affecting the control room or relay room.

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

Operational Implementation

The team reviewed the operating procedures utilized for post-fire shutdown and performed an independent walk through of procedure steps to determine if appropriate information was available to the operators and to assess specified recovery actions to verify whether human factors had been adequately considered.

The team also reviewed operator training and job performance measures for alternative shutdown actions, discussed training with licensed operators, assessed shift manning adequacy, and evaluated the accessibility of the alternative shutdown operating stations and required manual action locations. The team assessed whether personnel required for safe shutdown were adequately trained and available onsite at all times, exclusive of those assigned as fire brigade members.

Specific procedures reviewed for safe shutdown from outside the control room included:

- @N1-SOP-21.2, "NMP1 Control Room Evacuation"
- @N2-OP-78, "NMP2 Remote Shutdown System Operating Procedure"
- @N2-SOP-78, "NMP2 Control Room Evacuation"

The team observed a demonstration, by licensed operators, of a transfer of plant control from the main control room to alternate safe shutdown panels, and a simulated plant shutdown to hot standby conditions from the remote shutdown panel. The team primarily focused on the portion of the procedures associated with achieving stable hot shutdown conditions, within the time frames assumed in the safe shutdown thermal hydraulic analysis. The team evaluated the approximate time to perform critical steps, such as establishing makeup flow to the reactor vessel, to assess the ability of operators to maintain plant parameters within the required limits.

b. Findings

No findings of significance were identified.

2. 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 Section III.G.2 of 10 CFR 50 Appendix R, for Unit 1 and the UFSAR for Unit 2 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.

During tours of the facility, the team observed the material condition of fire protection systems and equipment, the storage of permanent and transient combustible materials, and control of ignition sources. The team assessed whether NMPNS maintained the fire protection systems, and controlled combustible materials in accordance with NMP's fire protection program and administrative procedures.

b. Findings

No findings of significance were identified

3. 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) to ensure they were appropriate for the fire hazards in the area.

During the tours of the facility, the team assessed whether NMPNS maintained the fire barriers, and controlled combustible materials in accordance with NMP's fire protection program and administrative procedures.

b. Findings

No findings of significance were identified

4. Active Fire Protection

a. Inspection Scope

The team reviewed the 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 they would control and/or extinguish fires associated with the hazards in the selected areas. The team also performed a walkdown of accessible portions of the detection and suppressions systems in the selected areas as well as a walkdown of major system support equipment in other areas (e.g., fire protection 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 assessed the fire brigade capabilities by reviewing training and qualification records, 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. In addition, the team inspected the fire brigade's protective ensembles, self-contained breathing apparatus (SCBA), and various fire brigade equipment (including smoke removal equipment) to determine operational readiness for fire fighting.

b. Findings

No findings of significance were identified

5. Protection From Damage From Fire Suppression Activities

a. Inspection Scope

The team performed a walkdown of accessible portions of the detection and suppressions systems in the selected areas as well as a walkdown of major system support equipment in other areas (e.g., fire protection pumps, Carbon Dioxide (CO₂) storage tanks and supply system) and assessed the potential for impacts on required safe shutdown systems.

b. Findings

No findings of significance were identified

6. Alternative Shutdown Capability

a. Inspection Scope

The team evaluated whether shutdown from outside the control room could be performed both with and without the availability of offsite power. The team performed plant walkdowns to determine whether the plant configuration was consistent with that described in the safe shutdown and fire hazards analyses. The team assessed the systems and components credited for use for safe shutdown from outside the control room, to verify whether they would remain free from fire damage. The team evaluated selected safe shutdown components and their power and control circuits to determine whether proper isolation and alternate power sources were provided for those components to verify whether alternate shutdown control would be affected by fire-induced circuit faults, in the event of a fire affecting the control room or relay room.

The team evaluated selected safe shutdown components and their power and control circuits to determine whether proper isolation and alternate power sources were provided for those components to verify whether alternate shutdown control would be affected by fire-induced circuit faults, in the event of a fire affecting the control room or relay room.

The team observed a demonstration, by licensed operators, of a transfer of plant control from the main control room to alternate safe shutdown panels, and a simulated plant shutdown to hot standby conditions from the remote shutdown panel.

b. Findings

No findings of significance were identified.

7. Circuit Analysis

a. Inspection Scope

The inspectors verified that NMPNS 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 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, single spurious actuation, actuations resulting in flow diversion or loss of coolant events.

The team also reviewed cable routing and sampled raceways for a sample of components required for post-fire safe shutdown to verify that cables were routed as described in the cable routing matrices.

Cable failure modes were reviewed for the following Unit 2 components:

- @ 2RHS*MOV30A
- @ 2RHS*MOV30B
- @ 2ICS*MOV126
- @ 2ICS*MOV150
- @ 2RSS*FIC106

The team reviewed circuit breaker coordination studies for both Unit 1 and Unit 2 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.

b. Findings

No findings of significance were identified

8. Communications

a. Inspection Scope

The team reviewed NMPNS's Fire Hazards Analysis, Safe Shutdown Evaluation, and the UFSAR to determine the methods and equipment that NMPNS used to achieve safe shutdown following postulated fires. In addition, the team evaluated NMPNS's fire response procedures and operating procedures for the selected fire areas to determine

the methods and equipment used to achieve safe shutdown following a fire. The team reviewed the operating procedures utilized for post-fire shutdown, and alternative shutdown, and performed an independent walk through of procedure steps to determine if appropriate communications methods were provided for the operators performing actions in the field.

b. Findings

No findings of significance were identified.

9. Emergency Lighting

b. 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 and various documents, including the vendors manual and completed surveillance tests were reviewed to ensure adequate surveillance testing and periodic battery replacements were in place to ensure reliable operation of the eight-hour emergency lights and that the emergency lighting units were being maintained consistent with the manufacturer's recommendations and accepted industry practices.

b. Findings

No findings of significance were identified

10. Cold Shutdown repairs

No cold shutdown repairs were identified for the target areas.

11. Compensatory Measures

a. Inspection Scope

The team verified that compensatory measures were in place for out-of-service, degraded or inoperable fire protection systems, or features (e.g., detection and suppression systems and equipment).

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team reviewed focused self-assessments and selected condition reports for fire protection program and post-fire safe shutdown equipment. The team assessed NMPNS's problem identification thresholds, and evaluated the effectiveness of NMPNS's prioritization and corrective actions for resolving fire protection and safe shutdown related deficiencies.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On May 25, 2006, the team presented the inspection results to Mr. T. O'Connor and other members of the staff who acknowledged the findings.

Some of the documents reviewed during the inspection were marked as proprietary. The team returned all proprietary information at the conclusion of the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Blasiak, System Engineer - Fire Protection
K. Embry, Licensing
S. Savar, Appendix R Engineer
J. Blasiak, Fire Protection Engineer
D. Bottorf, Reactor Operator
E. Dunn, Electrical Engineer
D. Goodney, Principle Electrical Engineer
N. Kabarwal, Electrical Engineer
S. Savar, Electrical Engineering Contractor
B. Spear, Reactor Operator
J. Woodduff, Fire Protection Engineer

NRC Personnel

L. Cline, Senior Resident Inspector, Nine Mile Point
B. Fuller, Resident Inspector, Nine Mile Point
E. Knutson, Resident Inspector, Nine Mile point
W. Schmidt, Senior Reactor Analyst, Region I

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

NONE

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Procedures

N1-SOP-21.2, revision 00, "Control Room Evacuation"
 N2-OP-31, revision 15, "Residual Heat Removal System Operating Procedure"
 N2-OP-35, revision 6, "Reactor Core Isolation Cooling Operating Procedure"
 N2-OP-78, revision 10, "Remote Shutdown System Operating Procedure"
 N2-SOP-78, revision 3, "Control Room Evacuation"
 EPIP-EPP-28, Fire Fighting, Rev. 12
 EPMP-EPP-02, Emergency Equipment Inventories and Checklists, Rev. 32
 GAP-FPP-02, Control of Hot Work, Rev. 06
 GAP-INV-02, Control of Material Storage Areas, Rev. 16
 N2-FPM-LOG-M001, Emergency Lighting Test, Rev. 06
 NDD-FPP, Fire Protection Program, Rev. 11
 S-SAD-FPP-0101, Fire Watch/Patrol/Inspection, Rev. 00
 S-SAD-FPP-0105, Compensatory Measures For Inoperable Fire Protection Systems And
 Components, Rev. 10
 N1-OP-21F, Fire Protection System – Ventilation (Smoke Removal), Rev. 07
 NEP-FPP-01, Fire Protection Engineering, Rev. 10
 NIP-FPP-01, Fire Protection Program, Rev. 15

Fire Protection Licensing Documents

DBD-Appendix R, revision 6, "Appendix R Safe Shutdown System"
 NMP1 UFSAR, Appendix 9A, revision 13, "Appendix R Review - Safe Shutdown Evaluation"
 NMP2 UFSAR, Appendix 9B, revision 13, "Appendix R Review - Safe Shutdown Evaluation"
 NMP1 UFSAR Appendix 10B, Appendix R Safe Shutdown Analysis, Rev. 16

Fire Brigade Lesson Plans

OS-FT-010-SFP-3-00, Station Fire Plan, Rev. 04
 OS-FT-016-FFT-3-00, Fire Fighting Strategy And Tactics (Pre-Fire Plans), Rev. 04
 OS-FT-022-TLS-3-00, Fire Fighting Tools And Equipment, Rev. 05
 OS-FT-053-FWT-3-00, Fire Watch, Rev. 06

Calculations and Engineering Evaluation Reports

GE-NE-B13-01869-11, revision 1, "NMP2 Appendix R Safe Shutdown Evaluation"
 NER-2E-005, revision 0, "NMP2 App-R Safe Shutdown Program Review"
 NMP2-6295, Letter from GE to Stone & Webster, dated 09-25-1984
 EAS-54-0889, revision 1, "NMP1 App-R Safe Shutdown Analysis with two Emerg. Condensers"
 SO-GOTHIC-APPR01, revision 0, "NMP1 App-R Containment Press. & RPV Cooldown Eval"
 EC-162, revision 1, "NMP2 App-R Associated Circuits by Spurious Operation"
 FPPE 1-90-009, Extent of Required Cable Tray Fire Retardant Coating
 125VDC-BB11/BB12-PDCS, Coordination Study for Battery Boards #11 & #12, Rev. 0
 4160VAC-PB102/103-PDCS, Coordination & Protection Study for PB102 & 103, Rev. 0

600VAC-PB16-PDCS, Power Board 16 Coordination Study, Rev. 3
 12177-EC-38-2, 5kV Power Cable Sizing Calc Sheet, Rev. 2
 EC-160, 125VDC Breakers Coordination, Rev. 0
 EC-161, App. R Assoc. Ckt by Common Power Source, Rev. 0
 EC-165, 600VAC Safety Related Breakers Coordination, Rev. 0
 EC-166, Figure 9.8 / ER-101C-SK, 2RHS*P1A/B/C Time-Current Characteristic Curves, Rev. 0

Condition Reports (* denotes generated as a result of this inspection)

NM-1996-3379	NM-1997-0118	NM-1997-0521	NM-2005-5238
NM-2006-2402*	NM-2006-2433*	NM-2006-2434*	NM-2006-2437*
NM-2006-2452*	NM-2005-0038	NM-2005-3614	NM-2006-2135
NM-2006-2148	NM-1998-0548	NM-2001-1196	NM-2001-1417
NM-2004-3009	NM-2004-3802	NM-2004-4207	NM-2005-4047
NM-2006-2235*	NM-2006-2442*	NM-2006-2452*	NM-2006-2442*
NM-2006-2261*	NM-2006-2230*	NM-2005-3583	

Hot Work Permits:

HWP 29577	HWP 25258	HWP 25045	HWP 33260	HWP 29567	HWP 25349
HWP 30678	HWP 33261	HWP 33265	HWP 33350		

Work Orders

05-15584-00	05-00349-00	05-00351-00	05-00352-00	05-19700-00	05-26026-00
05-21056-00	05-14147-00	05-13299-00			

Drawings

PID-31A, revision 20, "Residual Heat Removal (RHR) System P&ID"
 PID-31B, revision 17, "RHR System P&ID"
 PID-31C, revision 13, "RHR System P&ID"
 PID-31D, revision 19, "RHR System P&ID"
 PID-31F, revision 15, "RHR System P&ID"
 PID-31G, revision 12, "RHR System P&ID"
 ESK-11RSS12, revision 3, "Remote Shutdown System Schematic"
 7.212-001, revision 48, "Nuclear Steam Station Shutoff System Elementary"
 ESK-6RHS20, revision 3, "RHR Shutdown Cooling Injection MOV Schematic"
 PID-43-2-SH1, Piping and Instrumentation Diagram Fire Protection- Water Fundamental Sh. 1
 PID-43A-15, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43B-20, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43C-15, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43D-16, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43E-16, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43F-15, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43G-19, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1
 PID-43H-15, Piping and Instrumentation Diagram Fire Protection- Water, Sh. 1

PID-45A-15, Piping and Instrumentation Diagram Fire Protection- CO₂ System, Sh. 1
 PID-45C-07, Piping and Instrumentation Diagram Fire Protection- CO₂ System, Sh. 1
 EE-65B, Lighting Plan Control Building El. 237, Sh. 1, Rev. 9
 EE-165C, Lighting Plan Control Building El. 261, Sh. 1, Rev. 4
 EE-65D, Lighting Plan Control Building El. 288, Sh. 1, Rev. 11
 EE-67B, Lighting Plan Reactor Building El. 196, Sh. 1, Rev. 7
 EE-67C-7, Lighting Plan Reactor Building El. 215, Sh. 1, Rev. 7
 EE-67D-7, Lighting Plan Reactor Building El. 240, Sh. 1, Rev. 7
 EE-67F, Lighting Plan Reactor Building El. 289, Sh. 1, Rev. 13
 EE-67H, Lighting Plan Reactor Building El. 328, Sh. 1, Rev. 8
 EE-67J-5, Lighting Plan Reactor Building El. 353, Sh. 1, Rev. 5
 B-27100-C, Fire Retardant Protection For Cable Trays, Sh. 1, Rev. 09
 B-27100-C, Fire Retardant Protection For Cable Trays, Sh. 2, Rev. 09
 B-40142-C, General Floor Plan Reactor Building – FL. EL. 237'-0" Turbine Building- FL. EL.
 250'-0" Fire Rated Walls And Slabs, Sh. 1, Rev. 08
 B-40143-C, General Floor Plan Reactor Building – FL. EL. 261'-0" Turbine Building – FL. EL.
 261'-0" Fire Rated Walls And Slabs, Sh. 1, Rev. 07
 B-40144-C, General Floor Plan Reactor Building – FL. EL. 281'-0" Turbine Building – FL. EL.
 277'-0" Fire Rated Walls And Slabs, Sh. 1, Rev. 07
 C-18030-C, Fire Protection Foam & Spray Water P&I Diagram, Sh. 2, Rev. 15 C-18030-C, Fire
 Protection Water System P&I Diagram, Sh. 3, Rev. 34
 C-18030-C, Fire Protection Water System P&I Diagram, Sh. 4, Rev. 16
 C-18039-C, Generator H₂ And CO₂ Systems P & I Diagram, Sh. 1, Rev. 17
 C-18039-C, Cardox Fire Extinguishing System P & I Diagram, Sh. 3, Rev. 08
 C-39591-C, Appendix R Safe Shutdown Fire Walls and Floors, Sh. 1, Rev. 07
 C-19408-C, One-Line Dia.-Main & Secondary Connections, Sh. 1, 2, 3, Rev. 33
 C-19409-C, One-Line Dia.-AC Station Power Distribution, Sh. 1B, Rev. 12
 C-19409-C, One-Line Dia.-Aux Sys 4160V Powerboards #11, 12 & 101, Sh. 2, Rev. 32
 C-19440-C, Ele. Wiring Dia.–600V Power Board 171B, Sh. 6, Rev. 25
 C-19839-C, One-Line Dia.-125VDC Control Bus, Sh. 1, Rev. 12
 C-19839-C, One-Line Dia.-125VDC Control Bus (Batt Board #11), Sh. 3, Rev. 20
 C-19839-C, One-Line Dia.-125VDC Control Bus (Powerboard #12, Sh. 6, Rev. 2
 C-19839-C, One-Line Dia.-125VDC Control Bus (Powerboard #102 & DG #102), Sh. 7, Rev. 6
 C-19839-C, One-Line Dia.-125VDC Control Bus (Powerboard #103 & DG #103), Sh. 8, Rev. 6
 C-19839-C, One-Line Dia.-125VDC Control Bus (Powerboard #16), Sh. 9, Rev. 4
 C-19839-C, One-Line Dia.-125VDC Control Bus (Powerboard #17), Sh. 10, Rev. 6
 C-19839-C, One-Line Dia.-125VDC Control Bus (Control Bus 11A, 11B, & 12B), Sh. 15, Rev. 5
 C-19839-C, One-Line Dia.-125VDC Control Bus (Control Bus 11C), Sh. 17, Rev. 4
 C-19839-C, One-Line Dia.-125VDC Control Bus (Control Bus N-1, 2, 3, 4), Sh. 18, Rev. 14
 C-19842-C, Ele. Dia. – DC Valve Board #11, Sh. 1, Rev. 10
 C-19845-C, Ele. Dia. – DC Valve Board #12, Sh. 2, Rev. 25
 C-19847-C, Ele. Dia. – DC Valve Board #12, Sh. 6, Rev. 25
 C-19859-C, Ele. Wiring Dia.–Rx Protection Sys. (Emer. Cooling Ch. #11), Sh. 8, Rev. 46
 C-19859-C, Ele. Wiring Dia.–Rx Protection Sys. (Emer. Cooling Ch. #12), Sh. 8A, Rev. 20
 C-34812-C, Ele. Wiring Dia. Remote Reactor Shutdown System-Misc Instruments, Sh. 1 Rev. 7
 C-34812-C, Ele. Wiring Dia. Remote Reactor Shutdown System-Switch Dev., Sh. 2 Rev. 4
 C-34815-C, Interconnection Dia. Remote Shutdown Panel (Channel 11), Sh. 1, Rev. 9

C-34815-C, Interconnection Dia. Remote Shutdown Panel (Channel 12), Sh. 2, Rev. 6
0007.245-001-020, Elem. Dia. RCIC System, Rev. 4
12177-EE-3MA-6, Wiring Dia. Remote S/D Panel 2CES*PNL405, Rev. 6
12177-EE-3ME-4, Wiring Dia. Remote S/D Panel 2CES*PNL405, Rev. 4
12177-EE-460K-5, Arrgt Cnd & Simc Sprts, Reactor Bldg EL 196' Sh.1, Rev. 5
12177-EE-460Q-4, Arrgt Cnd & Simc Sprts, Reactor Bldg EL 196' Sh.6, Rev. 4
12177-ER-101-SK, Phase & GND Relay Summary Sheet 4.16kV Bus 101, Sh. 1, Rev. 7
12177-ESK-11ICS07, DC Elem. Diag. 125V RCIC Turbine Throttle MOV, Rev. 8
EB-22A-14, Fire Protection Arrangement U2 Station Bldgs Plan EL 175', 196', & 198', Rev. 14
EE-1C, Main One-Line Diagram 4.16kV Aux XFMR Normal 4.16kV & 600V Sys, Rev. 12
EE-1D, Main One-Line Diagram Emerg 4.16kV & 600V Sys, Rev. 17
EE-1BA, One-Line Diagram Normal Bus Power Dist., Rev. 14
EE-3CU, Ext. Conn. Dia. PGCC Termination Cabinet 2CEC*PNL705 Bay E, Rev. 11
EE-9ME-5, 600V Wiring Dia. 2EHS*MCC103 Bus 'C' Control Room Bldg El. 261', Rev. 5
EE-M01A, Plant Master One-Line Dia. Normal Power Dist, Rev. 17
EE-M01B-7, Plant Master One-Line Dia. Emerg. Power Dist, Rev. 7
EE-M01D, Plant Master One-Line Dia. Normal 600V & 120VAC, Rev. 14
EE-M01E, Plant Master One-Line Dia. Normal 600V & 120VAC, Rev. 8
EE-M01F, Plant Master One-Line Dia. Emerg. & Normal 125V & 24/48VDC, Rev. 8
EE-M01G, Plant Master One-Line Dia. Normal 125VDC, Rev. 8
EE-3ML-9, Wiring Dia. Misc. RCIC 2ICS*IPNL201, 2*TB7060, Rev. 9
ESK-3P, Contact Switch Contact Diagram-Sheet 15A, Sh. 1-3, Rev. 9
ESK-3K, Contact Switch Contact Diagram-Sheet 11A, Sh. 1-3, Rev. 12
ESK-5RHR01, DC Elementary Dia. 4.16kV SWGR RHR Pump 1A, Rev. 10
ESK-5RHR04, DC Elementary Dia. 4.16kV SWGR RHR Pump 1A, Rev. 6
ESK-6RHR41, AC Elementary Dia. 600V MCC Ckt RHR Suppression Pool Isol. MOV, Rev. 10
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ESK-11RSS06, DC Elementary 125VDC Remote Shutdown Panel, Rev. 10
ESK-11RSS07, DC Elementary 125VDC Remote Shutdown Panel, Rev. 8
ESK-11RSS08, DC Elementary 125VDC Remote Shutdown Panel, Sh. 1,2, Rev. 11
ESK-11RSS09, DC Elementary 125VDC Remote Shutdown Panel, Rev. 8
ESK-11RSS10, DC Elementary 125VDC Remote Shutdown Panel, Rev. 5
ESK-11RSS11, DC Elementary 125VDC Remote Shutdown Panel, Rev. 6
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NMP2 Master Equipment List database Entry for 2CES*Z46E, dated May 11, 2006,
PID-31A-20, Residual Heat Removal, Rev. 20
PID-31C-13, Residual Heat Removal, Rev. 13
PID-31D-19, Residual Heat Removal, Rev. 19

PID-31F-15, Residual Heat Removal, Rev. 13
TL2RSS-006, Test Loop Diagram RCIC Pump Discharge Flow 2RSS*FT106, Sh. 1, Rev. 2
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Operator Training Documents

02-OPS-PJE-001-2-00, revision 3, "Remote Shutdown System"
02-OPS-PJE-296-2-04, revision 2, "RCIC Manual Initiation from Remote Shutdown Panel JPM"
02-OPS-PJE-296-2-07, revision 1, "RCIC Rx Operator Actions during MCR Evaluation JPM"

Surveillance Tests

MS.0045.002, CO₂ Concentration Verification, Rev 1, Completed 6/17/86
N2-FPM-FPL-001, CO₂ Concentration Verification, Rev. 0, Completed 10/15/87, 1/08/88
N2-FSP-FPW-R001, Electric and Diesel Fire Pump Functional Test, Rev. 06, Completed
1/19/04 and 7/13/05
N2-FSP-FPW-3A001, Fire Protection Water (FPW) System Flow Test, Rev. 04 Completed
2/16/00
N2-FSP-FPW-5Y001, Fire Protection Water (FPW) System Flow Test, Rev. 00 Completed
12/01/05
N2-FPM-FPW-A004, Sprinkler Alarm Test, Rev. 02, Completed 12/30/05
N2-FPM-FPM-A001-2, Functional Test Of The Fire Detection Zones, Rev. 03, Completed
4/15/05
N2-FSP-FPW-R003, Sprinkler Valve Functional Test- Preaction/Deluge, Rev. 02, Completed
0/7/05
N1-FST-FPL-A001, Low Pressure Carbon Dioxide System Functional Test, Rev. 01, Completed
12/16/04
N1-FST-FPL-A001, Low Pressure Carbon Dioxide System Functional Test, Rev. 02, Completed
12/20/05
N1-FST-FPW-C004, Fire System Sprinkler Test, Rev. 01, Completed 6/7/05
N1-OP-21A, Fire Protection System – Water, Rev. 08, Completed 3/23/06
N1-PM-C3, Electric and Diesel Fire Pump Performance Tests, Rev. 03, Completed 12/6/01
N1-PM-C3, Electric and Diesel Fire Pump Performance Tests, Rev. 05, Completed 2/15/05
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N1-ISP-060-004, Remote Shutdown Emergency Condenser Level Control Loop Calibration,
Rev. 2, performed November 15, 2005
N1-ST-R12, Initiation of ECs from RSP 11 and 12 Operability Test, Rev. 8, performed March
25, 2005
N2-EPM-GEN-RE576, Remote Shutdown Panel 2CES*PNL405 Switch Checks, Rev. 1,
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N2-OSP-RSS-R005, RHS Shutdown Cooling Mode MOV Isolation Remote Shutdown System
Test, Rev. 2, performed April 07, 2006

Miscellaneous Documents

N20599, "Byron Jackson Pump Vendor Manual"
 Nine Mile Point Fire Protection Program Sprinkler System Sediment Intrusion
 DDC 2M11611A, RHR Minimum Flow Analysis, Sh. 22-26
 General Electric Motor Manual N20599, 2RHS*P1A pump motor, diagrams 388HA997,
 455HA577, 455HA578
 Manual No. 8020 VMT, RHR Pump Tech Manual, Sec. 1.1 & 1.6, Rev. 17
 T-366080-1 Byron-Jackson Pump Div., 2RHS*P1A (SN:731-5-1098) factory Pump Test Data /
 Curves, dated June 14, 1977
 Root Cause Report for NM-2005-3583
 App. R Ass. Ckt. by Common Power Source Calc Sheet for 2EHS*MCC103, dated 10/28/93
 As-Built Trak2000 Cable Query Report for Raceway section 2TJ010N, dated May 10, 2006
 As-Built Trak2000 Cable Report for 2ICS*MOV150, dated May 12, 2006
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 As-Built Trak2000 Cable Report for 2RSS*FIC106, dated May 10, 2006
 Deviation/Event Report 2-97-3101, SRV Position Indication at Remote S/D Panel, dated
 November 07, 1997
 Deviation/Event Report 2-94-2121, Potential Problem Exisits with Remote Shutdown Panel
 Logic Testing, dated October 24, 1994
 Niagara Mohawk App. R Safe Shutdown Analysis Mech. Data Sheet for 2RHS*MOV30A
 Niagara Mohawk App. R Safe Shutdown Analysis Mech. Data Sheet for 2RHS*MOV30B

LIST OF ACRONYMS

CFR	Code of Federal Regulations
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
NMP	Nine Mile Point
NMPNS	Nine Mile Point Nuclear Station
NRC	Nuclear Regulatory Commission
P&ID	Piping and Instrument Diagram
PI&R	Problem Identification and Resolution
RCIC	Reactor Core Isolation Cooling System
RHS	Residual Heat Removal System
SSD	Safe Shutdown
UFSAR	Updated Final Safety Analysis Report