Mr. Peter E. Katz Vice President Nine Mile Point Nine Mile Point Nuclear Station, LLC. P.O. Box 63 Lycoming, NY 13093

SUBJECT: NINE MILE POINT, UNIT 2 - NRC TRIENNIAL FIRE PROTECTION

INSPECTION REPORT 05000410/2003007

Dear Mr. Katz:

On June 20, 2003, the NRC completed a triennial fire protection inspection at your Nine Mile Point Unit 2 facility. The enclosed report documents the inspection findings that were discussed on June 20, 2003, with Mr. John Conway and other members of your staff.

This 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.

The report documents one finding of very low safety significance (Green) that was determined to be a violation of NRC requirements. However, because of the very low safety significance and because the issue was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A of the Enforcement Policy. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator Region I; the Director, Office of Enforcement, Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at Nine Mile Point Nuclear Power Station.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARs) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

We appreciate your cooperation. Please contact me at 610-337-5146 if you have any questions regarding this letter.

Sincerely,

#### /RA/

John F. Rogge, Chief Electrical Branch Division of Reactor Safety

Docket Nos. 05000410 License Nos. NPF-69

Enclosure: NRC Inspection Report 05000410/2003007

W/Attachments: Supplemental Information

#### cc w/encl:

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J. M. Petro, Jr., Esquire, Counsel, Constellation Energy Group, Inc.

M. Wetterhahn, Esquire, Winston and Strawn

W. M. Flynn, President, New York State Energy, Research, and Development Authority

- C. Adrienne Rhodes, Chairman and Executive Director, State Consumer Protection Board
- P. D. Eddy, Electric Division, NYS Department of Public Service

Supervisor, Town of Scriba

- C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
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OFFICE	RI/DRS	RI/DRS	RI/DRP	RI/DRS	
NAME	LScholl	JRogge	JTrapp	Cobey/Schmidt	
DATE	07/21/03	07/23/03	07/23/03	07/22/03	

# U.S. NUCLEAR REGULATORY COMMISSION REGION 1

Docket No: 05000410

License No: NPF-69

Report No: 05000410/2003007

Licensee: Constellation Energy Group

Facility: Nine Mile Point, Unit 2

Location: P.O. Box 63

Lycoming, NY 13093

Inspection Period: June 2 - 20, 2003

Inspectors: Larry Scholl, Senior Reactor Inspector, DRS (Team Leader)

Aniello Della Greca, Senior Reactor Inspector, DRS

Keith Young, Reactor Inspector, DRS

Approved by: John F. Rogge, Chief

**Electrical Branch** 

Division of Reactor Safety

#### SUMMARY OF FINDINGS

IR 05000410/2003-007; 06/02/2003 - 06/20/2003; Nine Mile Point Unit 2; Triennial Fire Protection Inspection.

The report covered a two week team inspection by specialist inspectors. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (green, white, yellow, red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "green" or be assigned a severity level after NRC management review. 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

<u>Green</u>. The inspectors identified a non-cited violation of 10 CFR 50.54(a)(1) that occurred because the fire protection corrective action requirements of the quality assurance program were not properly implemented to promptly address a problem with the adequacy of fire brigade member familiarity with all areas of the plants.

This finding adversely impacted the manual fire suppression capability and because it affects the reactor safety mitigating systems cornerstone objective, the finding is greater than minor. The finding is of very low safety significance because delays in the fire brigade response during fire drills have not been frequent and the duration of the delay during the observed drill was relatively small with respect to the established response time goal such that equipment required for safe shutdown of the plant would not have been adversely affected. (Section 1R05.6).

# B. <u>Licensee Identified Violations</u>

None

ii Enclosure

## **Report Details**

# **Background**

This report presents the results of a triennial fire protection inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05, "Fire Protection." The objective of the inspection was to assess whether Constellation Energy Group 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, Unit 2. The following fire areas (FAs) were selected for detailed review based on risk insights from the Nine Mile Point Unit 2 Individual Plant Examination (IPE) and Individual Plant Examination of External Events (IPEEE):

- Division II Standby Switchgear Room (FA 19)
- Power Generation Control Complex (PGCC) Relay Room (FA 24)
- Control Room (FA 26)
- Division I Emergency Diesel Generator Room (FA 28)
- West Normal Switchgear Room (FA 78)

This inspection was a reduced scope inspection in accordance with the March 6, 2003, revision to IP 71111.05, "Fire Protection." Issues regarding equipment malfunction due to fire-induced failures of associated circuits were not inspected. Criteria for review of fire-induced circuit failures are currently the subject of a voluntary industry initiative. The definition of associated circuits of concern used was that contained in the March 22, 1982, memorandum from Mattson to Eisenhut, which clarified the requests for information made in NRC Generic Letter 81-12.

### 1. REACTOR SAFETY

**Cornerstones: Initiating Events, Mitigating Systems** 

# 1R05 Fire Protection

.1 Fire Area Boundaries and Barriers

# a. <u>Inspection Scope</u>

The team walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries, fire doors, and fire dampers. The team reviewed engineering evaluations, as well as surveillance and functional test procedures for selected items. The team also reviewed the licensee submittals and NRC safety evaluation reports (SERs) associated with fire protection features at Nine Mile Point Unit 2. Additionally, the team reviewed the design and qualification testing selected barriers and reviewed surveillance procedures for structural fire barriers, penetration seals and structural steel. These reviews were performed to ensure that the passive fire barriers were properly maintained and met the licensing and design bases as described in the licensee submittals, NRC SERs, the Nine Mile Point Unit 2, Updated Safety Analysis Report (USAR).

#### b. Findings

No findings of significance were identified.

# .2 Post-Fire Safe Shutdown Lighting and Communications

### a. Inspection Scope

The team observed the placement and aim 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 for post-fire safe shutdown. The team also reviewed preventive maintenance procedures and various documents, including the vendor manual and surveillance tests, to determine if adequate surveillance testing and periodic battery replacements were in place to ensure reliable operation of the emergency lights.

The team reviewed radio repeater location and power sources to ensure fire department and operator communications could be maintained for fire fighting and post-fire safe shutdown conditions.

### b. <u>Findings</u>

No findings of significance were identified.

# .3 <u>Programmatic Controls</u>

#### a. Inspection Scope

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 also reviewed the procedures that controlled hot-work activities and combustibles at the site. These reviews were accomplished to ensure that the Constellation Energy Group was maintaining the fire protection systems, controlling hot- work activities, and controlling combustible materials in accordance with the USAR, administrative procedures and other fire protection program procedures.

#### b. Findings

No findings of significance were identified.

# .4 Fire Detection Systems and Equipment

#### a. Inspection Scope

The team reviewed the adequacy of the fire detection systems in the selected plant fire areas. This included a walkdown of the systems and review of the type of installed detectors as shown per location drawings. The team also reviewed licensee submittals and the NRC SERs associated with the selected fire areas. These reviews were performed to ensure that the fire detection systems for the selected fire areas were installed in accordance with the design and licensing bases of the plant. Additionally, the team reviewed fire detection surveillance procedures to determine the adequacy of the fire detection component testing and to ensure that the detection system would function as required.

# b. Findings

No findings of significance were identified.

## .5 Fixed Fire Suppression Systems

# a. <u>Inspection Scope</u>

# Carbon Dioxide Systems and Equipment

The team reviewed the adequacy of the west normal switchgear room and Division II standby switchgear room total flooding carbon dioxide ( $CO_2$ ) systems by performing walkdowns of the systems, including the room envelopes. The team also reviewed the design and installation specifications, NFPA 12, "Standard on Carbon Dioxide Extinguishing Systems," initial discharge testing and the adequacy of surveillance procedures. These reviews were performed to ensure that the total flooding  $CO_2$  systems met the design and licensing bases as described in the licensee submittals and NRC SERs and that the system could perform its intended function in the event of a fire in either of these rooms.

The automatic function of the  $CO_2$  systems at Nine Mile Point Nuclear Station were disabled in July 2002, due to an event that resulted in an inadvertent discharge of the system. With the automatic function disabled, the  $CO_2$  systems can be initiated from the control room, locally at the fire areas of concern or at the central alarm panels for the affected fire areas. The team also reviewed the fire protection engineering evaluation that provided the basis for disabling the automatic function and the additional actions taken by the Constellation Energy Group to determine if they were appropriate and in accordance with the compensatory measures described in the USAR.

# Halon Systems and Equipment

The team reviewed the adequacy of the control room and PGCC relay room under floor total flooding Halon systems by performing walkdowns of the systems, including observation of the protected area envelopes. The team also reviewed the design and installation specifications, NFPA 12A, "Halon 1301 Fire Extinguishing Systems," initial discharge testing and the adequacy of surveillance procedures. These reviews were performed to ensure that the Halon systems met the design and licensing bases as described in the licensee submittals and NRC SERs and that the system could perform its intended function in the event of a fire in either of these rooms.

### Sprinkler Systems and Equipment

The team reviewed the adequacy of the pre-action sprinkler system for the Division I emergency diesel generator room by performing a walkdown of the system and observing the material condition. Additionally, the team reviewed the design and installation specifications, NFPA 13, "Standard for the Installation of Sprinkler Systems," installation drawings, the adequacy of surveillance procedures and the hydraulic calculations. These reviews were performed to ensure that the sprinkler system met the design and licensing bases as described in the licensee submittals and NRC SERs and that the systems could perform their intended function in the event of a fire in the respective area.

# b. Findings

No findings of significance were identified.

### .6 Manual Fire Suppression Capability

# a. <u>Inspection Scope</u>

The team walked down selected standpipe systems and observed portable extinguishers to determine the material condition of the manual fire fighting equipment and verify locations as specified in the pre-fire plans and fire protection program documents. 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 inspected the fire brigade's protective ensembles, self-contained breathing apparatus (SCBA), and various fire brigade equipment to determine operational readiness for fire fighting.

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 safe shutdown.

The team performed in-plant walk downs to evaluate the physical configuration of electrical raceway and safe shutdown components in the selected fire areas to determine whether water from an inadvertent fire suppression system pipe rupture or from manual fire suppression activities in the selected areas could cause damage that could inhibit the ability to safely shut down the plant.

The team reviewed fire brigade initial training and continuing training course materials to verify appropriate training was being conducted for the station firefighting personnel. Additionally, the team reviewed selected fire drills and critiques to ensure that drills were being conducted in risk significant areas.

The team reviewed the qualifications of several chief nuclear fire fighters and fire brigade members to ensure that they had met and maintained the requirements to be fire brigade leaders and members.

The team witnessed a fire drill for a cable fire in the Unit 2, division II cable routing area to evaluate the readiness of the fire brigade to fight fires. The team evaluated aspects of fire brigade performance including properly donning protective clothing and SCBA, the use of pre-fire plans and the implementation of proper fire fighting strategies. The team also compared the fire brigade performance against the acceptance criteria contained in the licensee's drill evaluation procedure.

# b. <u>Findings</u>

#### Introduction

A finding was identified during the observation of a fire drill when the entire fire brigade did not arrive at the incident scene within the time specified in the fire brigade drill assessment procedure. During further review of this issue, the team identified a corrective action violation that was determined to have a very low safety significance and is being treated as a non-cited violation.

### Description

The Nine Mile Point Nuclear Station fire brigade is comprised of a Chief Nuclear Fire Fighter (fire brigade leader), two radwaste workers (one from each unit) and two auxiliary operators (one from each unit). In the event of a fire, and during fire drills, the fire brigade leader establishes a command post near the area where the actual or simulated fire occurs. From the command post the fire brigade leader dispatches two teams to perform fire fighting activities and then directs the brigade activities from the post.

On June 18, 2003, the team witnessed a fire drill in the Unit 2, division II cable routing area. The fire brigade responded to the dress-out area in a timely manner and properly donned their turnout gear. The Unit 2 fire brigade members completed their dress-out and equipment checks first and the brigade leader dispatched them to the fire area from the command post. The second team, made up of Unit 1 operators, then arrived at the

command post, received a briefing from the brigade leader and were dispatched to the fire area. The second team was having difficulty locating the fire area and subsequently required assistance from security force member on the scene. This delay resulted in the second team arriving at the fire area eighteen minutes after the start of the drill. The Nine Mile Point Nuclear Station fire drill assessment procedure specifies that the entire fire brigade must arrive on the incident scene within fifteen minutes. As a result, the drill was evaluated as unsatisfactory and DER 2003-2778 was initiated to document the drill failure.

The team subsequently found that there were previous issues (DERs 2000-2329, 2001-4552, and 2001-4716) associated with the adequacy of fire brigade familiarity with plant fire areas. There were also several DERs that were initiated as a result of problems with the scheduling and performance of planned familiarization plant tours (DERS 2001-4128, 2002-406, 2002-713, 2002-809 and 2002-3487). The team concluded that corrective actions associated with resolving questions as to the adequacy of the fire brigade members familiarity with plant areas had not been timely or fully effective.

# <u>Analysis</u>

This finding adversely impacted the manual fire suppression capability and because it affects the reactor safety mitigating systems cornerstone objective, the finding is greater than minor. The risk significance of this issue was evaluated using the guidance in Inspection Manual Chapter 0609, Appendix F, "Determining Potential Risk Significance of Fire Protection and Post-Fire Safe Shutdown Inspection Findings." The issue was determined to be of very low safety significance because delays in the fire brigade response during fire drills have not been frequent and the duration of the delay during the observed drill was relatively small with respect to the established response time goal such that it is not likely that safe shutdown equipment would be adversely affected.

#### <u>Enforcement</u>

10 CFR 50.54(a)(1) requires, in part, that the licensee implement the quality assurance program described in the Safety Analysis Report. Section B.16.2.5 of Appendix B to the Nine Mile Point Updated Safety Analysis Report requires that "Conditions adverse to fire protection such as failures, malfunctions, deficiencies, deviations, defective components, uncontrolled combustible material and nonconformances are promptly identified, reported and corrected." Contrary to this requirement, the licensee had not promptly corrected deficiencies with the adequacy of the fire brigade familiarization with plant fire areas. Because the failure to promptly correct this deficiency is of very low safety significance and has been entered into the corrective action program (DER 2003-2778), this violation is being treated as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy: NCV 50-410/03-07-01, Failure to Promptly Correct Fire Protection Deficiency.

### .7 Remote Shutdown Capability

#### a. Inspection Scope

The team reviewed the fire response procedures, alarm response procedures and operating procedures for the selected fire areas to evaluate the methods and equipment used to achieve hot shutdown following a fire. The team also reviewed piping and instrumentation drawings (PI&D) 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 appropriate components were properly evaluated and included in the safe shutdown equipment list. The team also reviewed selected remote shutdown components and their control circuits to ensure that proper isolation was provided for remote shutdown capability, in the event of a fire affecting the control or relay room. The team performed field walkdowns to evaluate the protection of the equipment from the effects of fires.

Post-fire shutdown procedures for the selected areas were also reviewed to determine if appropriate information was provided to plant operators to identify protected equipment and instrumentation and if recovery actions specified in post-fire shutdown procedures considered manpower needs for performing required actions. The team also reviewed training lesson plans for the alternative shutdown procedures, discussed training with licensed operators, reviewed selected remote shutdown equipment tests, reviewed the adequacy of shift manning, and evaluated the accessibility of the alternative shutdown operating stations and required manual action locations.

Specific procedures reviewed included N2-SOP-78, "Control Room Evacuation," Revision 02, and N2-OP-78, "Remote Shutdown System," Revision 10. A procedure walkdown was performed for these procedures. The walkdown was performed by a licensed operating crew and focused primarily on the portion of the procedure associated with achieving stable hot shutdown conditions. Plant operators were accompanied by NRC team members during the walkdown and the approximate time for critical steps, such as establishing makeup flow to the reactor vessel, were noted and evaluated to assess the ability of the operators to maintain plant parameters within procedural limits.

### b. Findings

No findings of significance were identified.

#### .8 Safe Shutdown Circuits

# a. <u>Inspection Scope</u>

The team reviewed power and control cable routing for a sample of components required for post-fire safe shutdown to determine if the cables were properly evaluated as part of the safe shutdown analyses in the USAR.

The team reviewed electrical fuse and 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. The team also reviewed the electrical isolation

capability of selected equipment needed for post-fire safe shutdown to ensure that such equipment could be operated locally, if needed.

Due to the issuance of Change Notice 00-020 to Inspection Procedure 71111.05, "Fire Protection," the team did not review associated circuit issues during this inspection. This change notice has suspended this review pending completion of an industry initiative in this area.

# b. <u>Findings</u>

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

#### 4OA2 Identification and Resolution of Problems

.1 Corrective Actions for Fire Protection Deficiencies

#### a. Inspection Scope

The team reviewed the open corrective maintenance work orders for fire protection and safe shutdown equipment, selected deviation event reports (DERs) for fire protection and safe shutdown issues and the fourth quarter (2002) Unit 2 fire protection systems health report to evaluate the prioritization for resolving fire protection related deficiencies and the effectiveness of corrective actions. The team also reviewed recent Quality Assurance (QA) Audits and self-assessments of the fire protection program to determine if the licensee was identifying program deficiencies and implementing appropriate corrective actions.

### b. <u>Findings</u>

Section 1R05.6 describes a finding for the failure to promptly correct a fire protection deficiency associated with the adequacy of fire brigade member familiarity with plant areas.

# 4OA6 Meetings, Including Exit

# .1 <u>Exit Meeting Summary</u>

The team presented their preliminary inspection results to Mr. John Conway, and other members of the Nine Mile Point Nuclear Station, Unit 2 staff at an exit meeting on June 20, 2003. A telephone call to provide an updated status of the findings was also conducted on July 15, 2003 with Messrs. F. Cann and K. Embry.

### **SUPPLEMENTAL INFORMATION**

# **KEY POINTS OF CONTACT**

# Constellation Energy Group

J. Conway

J. Blasiak

W. Bush
Fire Protection Supervisor Operations
F. Cann

Nine Mile Point Vice President

Systems Engineer, Fire Protection

Fire Protection Supervisor Operations

Fire Protection Program Manager

L. Backus Training Specialist

K. Embry Licensing

W. Wilson Systems Engineer, Emergency Lights

# **Nuclear Regulatory Commission**

W. Lanning, Director, Division of Reactor Safety

- J. Linville, Chief, Electrical Engineering Branch
- G. Hunegs, Senior Resident Inspector, Nine Mile Point Nuclear Station
- B. Fuller, Resident Inspector, Nine Mile Point Nuclear Station
- E. Knutson, Resident Inspector, Nine Mile Point Nuclear Station

# LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

# Opened and Closed

05000410/2003-07-01 NCV Failure to Promptly Correct Fire Protection Deficiency.

# SUPPLEMENTAL INFORMATION (Cont'd)

# LIST OF ACRONYMS USED

ADS Automatic Depressurization System

CFR Code of Federal Regulations

CO<sub>2</sub> Carbon Dioxide

DER Deviation Event Report
DRS Division of Reactor Safety

FA Fire Area

IP Inspection Procedure

IPE Individual Plant Examination

IPEEE Individual Plant Examination of External Events

IR Inspection Report MCC Motor Control Center

MHIF Multiple High Impedance Faults

NCV Non-Cited Violation

NFPA National Fire Protection Association

NMP2 Nine Mile Point, Unit 2

NRC Nuclear Regulatory Commission

PAR Publicly Available Record

P&ID Piping and Instrumentation Drawing PGCC Power Generation Control Complex

QA Quality Assurance

RCIC Reactor Core Isolation Cooling RHS Residual Heat Removal System

SAR Safety Analysis Report SER Safety Evaluation Report

SCBA Self-Contained Breathing Apparatus SDP Significance Determination Process

SER Safety Evaluation Report

USAR Updated Safety Analysis Report

#### LIST OF DOCUMENTS REVIEWED

### Calculations/Engineering Evaluations

A10.1-AA-8, Determine Max. Flood Level Based on Visual Detection 36:30 Hours After Leak Begins, Rev. 2

A10.1-AA-18, Max. Steady State Flood Height at Floor EL. 261' 0" of the Control and Diesel Gen. Building, Rev. 0

EC-149, Safety Related Coordination, Rev. 0

EC-161, Appendix R Associated Circuits by Common Power Source, Rev. 0

EC-162, Appendix R Associated Circuits by Spurious Operation, Rev. 1

EC-163, Appendix R Associated Circuits by Common Enclosure, Rev. 0

EC-164, Appendix R Associated Circuits by Common Power Source MHIF, Rev. 0

ES-281, Suppression Pool & Reactor Vessel Thermal Response Following Control Room Fire, Rev. 0

FPW-8, Determining The Capacity Net Discharge Pressure and The Total Pump Head of the Main Fire Protection Pumps, Rev. 0

FPW-11, Minimum Water Supply Available at Entrance To Buildings and Fire Protection Header/Strainer, Rev. 1

FPW-27, Water Supply Verification for All Fire Hose Stations With Hose Lengths in Excess of 100', Rev. 0

FOF-3, Diesel Fire Pump Fuel Tank Fill Requirements, Rev. 1

GE-NE-B13-01869-11, Appendix R Safe Shutdown Evaluation, NMP Nuclear Station Unit 2, January 1997

HVR-051, Temperature in North and South Aux Bay MCC Rooms, Rev. 0

HVR-056, MCC Room Temperature Response Following a Control/Relay Room Fire (Appendix R) Without the Unit Cooler, Rev. 1

Low Pressure CO<sub>2</sub> Flow Calculations, Normal Switchgear Room, EL. 261' West, April 28, 1988

Low Pressure CO<sub>2</sub> Flow Calculations, Standby Switchgear Room Div. II, May 29, 1987

MISC 10.130-5002, Calculation For PGCC, Zone 353SG, EL. 288'-6" NW, Rev. F

MISC 10.130-5004, Calculation For PGCC, Zone362SG, EL. 288'-6" SW, Rev. G

MISC 10.130-5005, Calculation For PGCC, Zone 374SG, EL. 306'-0" NW, Rev. G

MISC 10.130-5009, Calculation For PGCC, Zone 376XG, EL. 306'-0" SE, Rev. E

FPEE 0-03-002, Eval of Interim Action Taken to Prevent Personnel Injury From CO<sub>2</sub>, Rev. 0

FPEE 2-00-015, Performance Based Review of Control Room Halon and Detection Testing

FPEE 2-94-001, Performance Based Fire Detector Testing

N2-00-79, FSAR Appendix 3C Spray/Flooding Evaluation Flood/Spray Zone Evaluation Summary, Fire Zone 336XL, October 20, 1984

# Initial CO<sub>2</sub> and Halon Discharge Testing

MD.0046.001, Halon Concentration Test, April 18, 1986

MS.0045.002, CO<sub>2</sub> Concentration Verification for 336XL, March 10, 1987

N2-FPM-FPL-001, CO<sub>2</sub> Concentration Verification for 612XL, Rev. 0

N2-POT-45, Fire Protection - CO<sub>2</sub>, Rev. 0

#### Procedures

N2-ARP-01, Nine Mile Point Unit 2 Alarm Response Procedures, Rev. 00

EPIP-EPP-28, Fire Fighting, Rev. 7

GAP-FPP-02, Control of How Work, Rev. 6

GAP-FPP-03, Breach Permit, Rev. 6

GAP-HSC-0, Housekeeping Tours and Inspections, Rev. 7

GAP-INV-02, Control of Material Storage Areas, Rev. 4

GAP-OPS-01, Administration of Operations, Rev. 24

GAP-OPS-06, Communication Systems, Rev. 5

NAI-FPP-02, Fire Protection Corrective Action Review Team, Rev. 0

NCD-FPP, Fire Protection Program, Rev. 29

NIP-CON-01, Design and Configuration Control Process, Rev. 04

NIP-FPP-01, Fire Protection Program, Rev. 13

NTP-TQS-402, Nuclear Fire Protection/Appendix R Fire Brigade Training Programs, Rev. 14

N2-EOP-6, Attachment 10, R.V. Injection VIA Shutdown Cooling Return, Rev. 05

N2-OP-43, Fire Protection - Water, Rev. 06

N2-OP-45, Fire Protection - Carbon Dioxide, Rev. 06

N2-OP-46, Fire Protection - Halon, Rev. 03

N2-OP-47, Fire Detection, Rev. 04

N2-OP-78, Remote Shutdown System, Rev. 10

N2-SOP-78, Control Room Evacuation, Rev. 2

S-SAD-FPP-0101, Fire Watch/Patrol/Inspection, Rev. 0

S-SAD-FPP-0102, Fire Department Shift Turnover, Rev. 0

S-SAD-FPP-0104, Control of Fire Detection Systems, Rev. 1

S-SAD-FPP-0105, Compensatory Measures For Inoperable Fire Protection Systems and Components, Rev. 3

#### Surveillance Procedures

N2-EPP-GS-A813, Annual Inspection of Emergency Battery Light (EBB) Units, Rev. 1

N2-FPM-FPW-R003, Hose Hydrostatic Test - High Radiation Areas, Rev. 5

N2-FSP-FPW-A001, Fire Hose Hydrostatic Test - House Houses, Rev. 6

N2-FSP-FPW-3A002, Fire Hose Hydrostatic Test, Rev. 4

N2-EPM-FPW-0679, quarterly Diesel Driven Fire Pump Battery Test, Rev. 2, Completed April 13, 2003

N2-EPM-FPW-W678, Weekly Diesel Driven Fire Pump Battery Test, Rev. 4, Completed April 21, 2003

N2-EPM-GEN-A813, Annual Inspection of Emergency Battery Light (EBL) Units, Rev. 1, Completed April 12, 2003

N2-FPM-FPE-A001, Maintenance & Inspection - Portable Fire Extinguishers, Rev. 6, Completed April 7, 2003

N2-FPM-FPL-A001, Balance of Plant Low Pressure Carbon Dioxide System Functional Test, Rev. 6, Completed April 22, 2003

N2-FPM-FPM-V001, Fire Detector Replacement/Operability Test, Rev. 1, Completed January 21, 2003

N2-FSP-FPE-A001, Fire Protection Equipment Annual Inspection, Rev. 0, Completed October 8, 2002

N2-FPM-FPG-A001, Rad-Waste Control Room Halon Functional Test, Rev. 5, Completed March 6, 2003

N2-FSP-FPG-5Y00, Halon System/Damper Actuation Test, Rev. 0

N2-FSP-FPG-R001, Halon System/Damper Actuation Test, Rev. 5, Completed October 31, 1998, and November 1, 1998

N2-FSP-FPG-SA001, Halon System Storage Cylinder Weight/Pressure Check, Rev. 6, Completed February 10, 2003

N2-FSP-FPL-R001, Low Pressure Carbon Dioxide System Functional Test, Rev. 10, Completed January 16 & 23, 2003, and April 1 & 7, 2003

N2-FSP-FPM-A001-2, Functional Test of The Fire Detection Zones - Fire Panels 125, 126, 127 and 128, Rev. 3, Completed October 24, 2002

N2-FSP-FPM-A001-5, Functional Test of The Fire Detection Zones Panel 129, Rev. 3, Completed April 23, 2001

N2-FSP-FPP-R001, Fire Rated Assemblies and Watertight Penetration Visual Inspection, Rev. 3, Completed March 14, 2003

N2-FSP-FPP-R002, Fire Damper Operation and Inspection, Rev. 5, Completed August 30, 2002

N2-FSP-FPW-A002, Hose Station Valve Operability Test, Rev. 4, Completed January 29, 2003

N2-FSP-FPW-3A002, Fire Hose Hydrostatic Test, Rev. 4, Completed January 15, 2003

N2-FSP-FPW-A003, FPW System Valve Cycling, Rev. 6, Completed April 7, 2002

N2-FSP-FPW-A006, Sprinkler Head Spray Shield Inspection, Rev. 1, Completed June 15, 2002 N2-FSP-FPW-R001, Electric/Diesel Fire Pump Functional Test, Rev. 5, Completed July 30, 2002

N2-FSP-FPW-R005, Sprinkler System Piping Verification Test Control Room Outdoor Air Special Filter Train Systems, Rev. 1, Completed February 26, 2002

N2-FSP-FPW-5Y001, FPW System Flow Test, Rev. 0, Completed February 16, 2000

N2-OSP-FOF-W001, Engine Driven Pump Operability and Storage Tank Level Test, Rev. 3, Completed June 2, 2003

N2-PM-M007, Motor Driven Fire Pump Operability Test, Rev. 0, Completed April 17, 2003 and May 16, 2003

N2-MMP-PEN-001, Breach/Removal of Penetration Seals, Rev. 2, Completed January 27, 2003 N2-EPM-RSS-R578, Control Room Isolation Switch Panel Visual Inspection/Cleaning, Switch SW1-2CESB02, Dated 3/22/02, Rev. 3

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N2-OSP-RSS-R002, RHS Shutdown and Suppression Pool Cooling Mode Remote Shutdown System Test, Dated 4/30/02, Rev. 3

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N2-OSP-RSS-R006, Nitrogen Supply to ADS Remote Shutdown System Test, Dated 4/10/02, Rev. 1

N2-OSP-RSS-R007, RCIC Remote Shutdown System Operational Test, Dated 10/16/02, Rev. 1

# Deviation/Event Reports (DERs)

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NM-2002-4273	NM-2002-5057	NM-2003-393	NM-2003-2778
NM-2000-1652	NM-2001-3089	NM-2001-4804	NM-2002-4102

### Quality Assurance Audits/Self-Assessments

Audit Report 00012, Annual Fire Protection Audit, November 20, 2000

Audit Report 01005, Fire Protection Annual/Biennial/Triennial Audit, November 15, 2001

Audit Report 02011, Annual Fire Protection Audit, November 26, 2002

FP-0-012, Fire Protection Program Administration Module, November 13, 2002

FP-0-014, Fire Protection Program Administration Module, November 13, 2002

FP-0-015, Fire Protection Program Administration Module, November 14, 2002

FP-0-023, Fire Protection Program Administration Module, November 14, 2002

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FP-2-016, Fire Detection Systems and Water Suppression Systems, November 15, 2002

FP-0-017, Fire Detection Systems, November 15, 2002

- FP-0-018, Water Suppression Systems, November 13, 2002
- FP-0-019, Water Suppression Systems, November 14, 2002
- FP-2-018, Fire Protection Program Administration, September 13, 2002
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2-01.03, Fire In Division II Diesel Generator Room, Diesel Generator Building 261', March 2001

2-01.04, Fire In Local Fire Control Panel 2FPM-PNL123, January 2003

2-01.06, Cable Fire Division II Cable Routing Area CB237', March 2001 and May 1, 2003

#### Quarterly Fire Drill Assessments

Scenario 1-00.02, Cable Fire, T.B. 250' Southwest, Completed January 25, 2002, February 15, 21, 22, 2003, January 10, 2003

Scenario 1-00.06, Fire in Cable Tray Reactor Building 261' West, Completed February 1 & 8, 2002

Scenario 2-01.03, Division 2 Diesel Generator Room, Completed May 10, 16, & 26, 2002, October 25, 2002, November 8, 2002, December 8 2002, April 30, 2003

Scenario 2-01.06, Cable Fire In Division II Cable Routing Area CB237, May 1, 2003 (The Team Witnessed This Drill on June 18, 2003)

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0805, Turbine Building 306', February 12, 2003

0876, Reactor Building 328', SE Quadrant, May 15, 2003

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First Quarter 2003, Fire Brigade Performance

First Quarter 2003, Fire Protection Self Identification Index

First Quarter 2003, Fire Protection Impairment Caused by Equipment Failure

#### Miscellaneous Documents

Fire Protection Program APIR - Improvement Plan

Fire Protection System Health Report, Fourth Quarter 2002

Master Equipment List for Penetration Seals, May 14, 2003

NFPA 12, CO<sub>2</sub> Extinguishing Systems, 1977, 1998

Organization Chart, Fire Protection Operations Personnel

Organization Chart, Nine Mile Point Nuclear Station, January 10, 2003

September 12, 1984, Letter to NMP Unit 2 From Stone & Webster Engineering Corp. - Fire Hose Reel Locations

November 16, 1984, Letter to NMP Unit 2Fire Protection Systems Fire Hose Stretch Tests

GE SIL No. 36, Remote Shutdown System Panel Procedure Recommendations, June 1980

GE 22A4679, Remote Shutdown System Design Specification, Rev. 0

NMP2L0635, NMP2 Letter to NRC, February 28, 1986

N2L19608MISE001, Emergency Lighting B200 Series Vendor Manual, Rev. 1

N2P36030VALVE002, Installation Instruction for 5000 Series Fire Damper, Rev. 1

Cable and Raceway Routing Database

NUREG-1047, Safety Evaluation Report Related to the Operation of Nine Mile Point Nuclear Station. Unit Number 2. Fire Protection Program

N2-FPI-PFP-0201, Unit 2 Pre-Fire Plans, September 28, 2000

Updated Safety Analysis Report Nine Mile Point Nuclear Station - Unit 2