August 3, 2009

EA-09-191

Mr. Sam Belcher
Vice President
Nine Mile Point Nuclear Station, LLC
P.O. Box 63
Lycoming, NY 13093-0063

SUBJECT: NINE MILE POINT NUCLEAR STATION UNITS 1 AND 2 - NRC TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000220/2009006 AND 05000410/2009006 AND EXERCISE OF ENFORCEMENT DISCRETION

Dear Mr. Belcher:

On June 19, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on June 19, 2009, with you 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.

The report documents one finding of very low safety significance (Green) which was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program, the NRC is treating the finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any 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, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Nine Mile Point Nuclear Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for you disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at Nine Mile Point Nuclear Station. The information will be considered in accordance with Inspection Manual Chapter (IMC) 0305.

In addition, the report documents one noncompliance that was identified during the inspection for which the NRC is exercising enforcement discretion. The NRC is not taking any enforcement action for the noncompliance because it meets the criteria of the NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)" and NRC IMC 0305, Section 12.01.b.

The scope of the inspection was reduced for Nine Mile Point Nuclear Station, Units 1 and 2, in accordance with Inspection Procedure 71111.05TTP, "Fire Protection-NFPA 805 Transition Period (Triennial)," issued on May 9, 2006, as a result of your ongoing project to convert the fire protection program of both units to the performance-based methodology as described in National Fire Protection Association Standard 805.

In accordance with Title 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Darrell J. Roberts, Director
Division of Reactor Safety

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

Enclosure: Inspection Report No. 05000220/2009006 and 05000410/2009006
w/Attachment: Supplemental Information

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/RA/

Darrell J. Roberts, Director
Division of Reactor Safety

Docket No. 50-220, 50-410
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Enclosure: Inspection Report No. 05000220/2009006 and 05000410/2009006
w/Attachment: Supplemental Information

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REGION I

Docket No.:	50-220, 50-410
License No.:	DPR-63, NPF-69
Report No.:	05000220/2009006, 05000410/2009006
Licensee:	Nine Mile Point Nuclear Station, LLC
Facility:	Nine Mile Point, Units 1 and 2
Location:	P.O. Box 63 Lycoming, NY 13093
Dates:	June 1-5, 2009 and June 15-19, 2009
Inspectors:	K. Young, Senior Reactor Inspector (Team Leader) O. Ayegbusi, Reactor Inspector E. Huang, Reactor Inspector J. Lilliendahl, Reactor Inspector M. Patel, Reactor Inspector J. Rady, Reactor Inspector (Observer)
Approved by:	John F. Rogge, Chief Engineering Branch 3 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000220/2009006, 05000410/2009006; 06/01/2009 - 06/19/2009; Nine Mile Point Nuclear Station, Units 1 and 2; Triennial Fire Protection Team Inspection.

The report covered a two-week triennial fire protection team inspection by specialist inspectors from the NRC's Region I office. One finding of very low significance was identified. This finding was determined to be a non-cited violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process (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 4, dated December 2006.

Additionally, Constellation has committed to converting the Nine Mile Point Nuclear Station (NMPNS) fire protection program to one which meets 10 CFR 50.48(c), National Fire Protection Association (NFPA) Standard 805. As a result of NRC enforcement policy changes applicable to plants in the process of transitioning to NFPA 805, one issue was identified and documented in this inspection report but is subject to enforcement discretion (Section 1R05.01).

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The team identified a finding of very low safety significance (Green) involving a non-cited violation of Unit 1 Technical Specifications, section 6.4.1 and Unit 2 Technical Specifications, section 5.4.1., for NMPNS's failure to correctly implement the fire brigade training program procedure to ensure that fire brigade members met the fire drill requirements to be qualified. Specifically, NMPNS failed to correctly assess the acceptance criteria required for a successful drill per their implementing procedure. Further review of fire brigade qualifications by the licensee determined that a number of fire brigade members were not qualified. The licensee removed the appropriate individuals from shift for remediation and placed the issue into their corrective action program for further review.

  The finding is greater than minor because the Mitigating Systems cornerstone objective to provide protection against external factors (fires) was affected. Specifically, the reliability and capability of the fire brigade's ability to respond to a fire was challenged. In accordance with Manual Chapter 0609, Appendix M, the safety significance of this finding was determined to be of very low safety significance (Green) because the fire brigades were able to meet the required times for fire extinguishment for the fire drill scenarios, and the issue did not significantly affect the ability of the fire brigades to respond to a fire. The finding had a

cross-cutting aspect in the area of human performance because Nine Mile Point Nuclear Station failed to follow their fire brigade training program procedure (H.4(b) per IMC 0305). (Section 1R05.04)

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 (Triennial)." 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), Units 1 and 2. The following fire areas (FAs) and fire zones (FZs) were selected for detailed review based on risk insights from the NMPNS, Units 1 and 2 Individual Plant Examination (IPE)/Individual Plant Examination of External Events (IPEEE):

NMPNS Unit 1	NMPNS Unit 2
FA 1, FZ R1A	FA 16, FZs 321NW, 352NW, 371NW
FA 5, FZ T3A	FA 24, FZ 356NZ
FA 11, FZ C2	FA 29, FZ 403SW
FA 22, FZ D2B	FZ 51, FZ 601XL

Inspection of these fire areas/zones fulfills the inspection procedure requirement to inspect a minimum of three samples.

The inspection team evaluated the licensee's fire protection program (FPP) against applicable requirements which included plant Technical Specifications, Operating License Conditions 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 included the Updated Final Safety Analysis Report (UFSAR), Appendix 9A (Unit 1) and 9B (Unit 2), the Fire Hazards Analyses (FHA), and the post-fire safe shutdown analyses for both Units 1 and 2.

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

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R05 Fire Protection (IP 71111.05T)

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

a. Inspection Scope

Methodology

The team reviewed the safe shutdown analyses, operating procedures, piping and instrumentation drawings (P&IDs), electrical drawings, the UFSARs and other supporting documents to verify that hot and cold shutdown could be achieved and

maintained for fires that rely on shutdown from outside the control rooms of both units. This review included verification that shutdown from outside the control rooms could be performed both with and without the availability of offsite power. Plant walkdowns were also performed to verify that the plant configurations were 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 makeup, reactor decay heat removal, process monitoring instrumentation, and support systems functions. The team verified that the systems and components credited for use during these shutdown methods would remain free from fire damage.

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

Operational Implementation

The team verified that the training program for licensed and non-licensed operators included alternative shutdown capability. The team also verified that personnel required for safe shutdown using the normal or alternative shutdown systems and procedures are trained and available onsite at all times, and were 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 for both units. The team also verified that the operators could be reasonably expected to perform specific actions within the time required to maintain plant parameters within specified limits. Time critical actions, which were verified, included the restoration of alternating current (AC) electrical power, establishing the remote shutdown and local shutdown panels, establishing reactor coolant makeup, and establishing decay heat removal.

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

NMPNS Unit 1

- N1-SOP-21.1, “Fire in Plant;” and
- N1-SOP-21.2, “Control Room Evaluation.”

NMPNS Unit 2

- N2-OP-78, "NMP2 Remote Shutdown System Operating Procedure"; and
- N2-SOP-78, "NMP2 Control Room Evacuation.”

The team reviewed manual actions to ensure that they could be implemented in accordance with plant procedures in the time necessary to support the safe shutdown method for each fire area. The team verified that the licensee had identified operator manual actions for post-fire safe shutdown and had plans in place to assess them as

part of the plant-wide risk evaluation for transition to National Fire Protection Association (NFPA) 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition. The team also reviewed the periodic testing of the alternative shutdown transfer capability and instrumentation and control functions to ensure the tests are adequate to ensure the functionality of the alternative shutdown capability.

b. Findings

Introduction. The team identified a violation of very low safety significance regarding the adequacy of post-fire safe shutdown procedures. Specifically, the safe shutdown procedure for a fire requiring evacuation of NMPNS, Unit 1 control room, did not have adequate guidance to detect and mitigate a feedwater vessel overfill event. This issue was determined to satisfy the criteria specified for the exercise of enforcement discretion for plants in transition to a fire protection program that meets the requirements of 10 CFR 50.48(c), National Fire Protection Association Standard NFPA 805.

Description. The NMPNS, Unit 1 Safe Shutdown Analysis (UFSAR Appendix 10B) recognized the potential for a vessel overfill caused by spurious feedwater system operation. The analysis incorrectly concluded that actions in procedure N1-SOP-21.2, "Control Room Evacuation," would eliminate this potential. Subsequently, N1-SOP-21.2 did not have adequate guidance to detect and prevent adverse effects from a feedwater overfill event.

During a fire requiring control room evacuation for Unit 1, the reactor vessel would be isolated to minimize the loss of coolant. As feedwater is injected into the vessel it can only be released through either the Electromatic Relief Valves (ERVs) or the code safety valves. If reactor level is allowed to increase above the high level trip set-point, it will first cover the Emergency Condenser (EC) steam lines. Constellation was able to show that covering the EC steam lines will not cause structural damage, but could cause the ECs to be isolated and would lower the efficiency of the ECs. The optimal method of subsequently restoring the level in the ECs was not documented in N1-SOP-21.2. If reactor level is allowed to increase above the EC steam lines, it will next cover the main steam lines, which will decrease the efficiency of the ERVs (if available) at controlling pressure. Finally, if reactor level is allowed to increase above the main steam lines, it could potentially fill the vessel and challenge the ability to control pressure. In summary, a feedwater overfill event could invalidate the safe shutdown assumption that pressure control is maintained by the ECs during a Unit 1 control room evacuation.

There are two motor driven and one turbine driven feedwater pumps at NMPNS, Unit 1. All three feedwater pumps are expected to start on a worse case auxiliary control room fire in the high pressure coolant injection mode. Each feedwater pump has a flow control valve that should throttle flow as level increases and a high level trip to stop the pump if level is too high in the vessel. A spurious operation of the pump would include hot shorts to disable the flow control valve so that it stays open and a hot short to prevent the high level trip from operating. This scenario is within the current licensing

basis of NMPNS, Unit 1, but due to the independent flow control systems only one feedwater pump spuriously operating can be postulated.

If the turbine driven feedwater pump spuriously operates, it would likely inject water into the EC steam lines until locally declutched. Although the procedure gives guidance to locally declutch the turbine drive feedwater pump, the potential exists for the vessel to overfill before being declutched. The procedure does not mention the potential for overfill from the motor driven feedwater pumps. If one of the motor driven pumps were to spuriously operate then the operators would be required to diagnose the problem from the limited indications at the remote shutdown panel and locally trip the pump without the benefit of procedural guidance. Also, N1-SOP-21.2 directs the operators to remove the ERVs' fuses within the first hour of the event. With these fuses removed, the ERVs cannot open during an overpressure event; therefore, they would not be available during an overfill condition to mitigate the event, and the only source of pressure and volume relief would be the code safety relief valves.

Technical Specification 6.4.1.d requires that written procedures be established to implement the Fire Protection Program. Contrary to this requirement, procedure N1-SOP-21.2, "Control Room Evacuation," does not provide adequate guidance to detect and mitigate a feedwater vessel overfill event. In response to this issue, Constellation entered the deficiency in the corrective action program by initiating condition report (CR) 2009-3448 and promptly implemented compensatory actions including actions to revise the procedure.

Analysis. Constellation's failure to properly proceduralize the timely detection and mitigation of a feedwater vessel overfill event was a performance deficiency. This performance deficiency is more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Constellation entered this performance deficiency into their corrective action program (CR 2009-3448) and implemented compensatory measures to provide additional guidance to the control room operators. The team viewed these actions as appropriate until this issue is fully resolved as part of the licensee's National Fire Protection Association (NFPA) Standard 805 implementation program. This issue was found to be of very low safety significance (Green) due to the low probability of the event and the ability for the operators to mitigate the event.

Specifically, a Region 1 Senior Risk Analyst (SRA) performed a SDP Phase 3 analysis of the degraded condition since it involved control room evacuation fire scenarios. The SRA determined that the dominant fire scenario was a fire in or adjacent to the high level trip cabinet that would disable the function before being detected. Additionally, the fire or effects of the fire, would necessitate evacuation of the control room and the safeties would be challenged and fail to close after passing water. For the specific fire condition, the dominant element was the requirement to evacuate the control room. Constellation performed evaluations of control room evacuation as part of the NUREG 6850 pilot initiative. The SRA reviewed applicable portions of this site specific analysis and found that it was applicable to the condition being evaluated. Applying this specific

control room evacuation likelihood for an electrical cabinet fire to a bounding analysis resulted in a change in core damage of low to mid E-7. This was considered to be conservative since there is spatial separation between the alternate control room (ACR) and the main control room, the cabinets in the ACR have individual fire detection in addition to area wide detection, and the area is protected with an automatic fixed halon system and backed up by a manually actuated area-wide fixed carbon dioxide system.

Enforcement. Although the performance deficiency involves a violation of Technical Specification 6.4.1.d; no enforcement action will be taken for this issue because the criteria of NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)," were satisfied. Specifically, although the NRC identified the concern, it is likely that the licensee would have identified and corrected this issue as part of the transition to NFPA 805, the licensee entered the issue into their corrective action program, the licensee implemented compensatory measures in a reasonable time commensurate with the risk significance, the issue was not likely to have been previously identified by routine licensee efforts, and the violation was not willful. Because all the criteria were met, the NRC is exercising enforcement discretion for this issue.

.02 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team reviewed the FHA, safe shutdown analyses and supporting drawings and documentation to verify that safe shutdown capabilities were properly protected. The team ensured that separation requirements of Section III.G of 10 CFR 50, Appendix R 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.

Under the 71111.05TTP inspection procedure, the inspection team is to validate one to three non-conformances identified in the licensee's transitional assessment of their fire areas. It is noted, as directed by and in accordance with the inspection procedure, that no fire areas have been completely assessed at the time of this inspection.

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

b. Findings

No findings of significance were identified.

.03 Passive Fire Protection

a. Inspection Scope

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

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

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 NFPA code of record, or as NRC approved exemptions (unit 1) or deviations for post 1979 plants (unit 2), and that each suppression system would control and/or extinguish fires associated with the hazards in the selected areas. A review of the design capability of the suppression agent delivery systems were verified to meet the code requirements for the hazards involved. The team also performed a walkdown of accessible portions of the detection and suppression systems in the selected areas as well as a walkdown of major system support equipment in other areas (e.g. fire pumps, Halon and carbon dioxide (CO_2) storage tanks and supply system) to assess the material condition of the systems and components.

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

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

b. Findings

Introduction. The team identified that NMPNS failed to correctly implement the fire brigade training program procedure to ensure that fire brigade members met the fire drill requirements to be qualified. This finding was determined to be of very low safety significance (Green) and a non-cited violation (NCV) of the NMPNS, Unit 1 Technical Specifications, section 6.4.1 and Unit 2 Technical Specifications, section 5.4.1.

Description. During review of procedure NMP-TR-1.01-107, "Nuclear Fire Brigade Training Program" and past fire brigade drill assessments, the team noted that NMPNS failed to correctly assess the acceptance criteria required for a successful drill. The team noted that a "Satisfactory" drill would require the success of three acceptance criteria: "individual sections scored ≥80; total drill score ≥80; and tasks indicated with an asterisk must score ≥1." Contrary to the above, the team identified that NMPNS used only the total drill score to assess the fire brigade drills. NMPNS reviewed past drills and determined 4 announced drills in 2008 and 1 announced drill in the first quarter 2009 that did not meet all three acceptance criteria. As a result, NMPNS disqualified 15 fire brigade members. One of the 15 disqualified fire brigade members was on shift at the time of discovery and was immediately removed and replaced. In addition, NMPNS included a list of disqualified fire brigade members to the control room log to prevent those individuals from being placed on shift. In accordance with NMPNS's training procedure, a remedial drill was performed on June 18, 2009.

Analysis. The performance deficiency was NMPNS failed to correctly implement the fire brigade training program procedure to ensure that fire brigade members met the fire drill requirements to be qualified. This finding was more than minor because the Mitigating System cornerstone objective attribute to provide protection against external factors (fires) was affected. Specifically, the reliability and capability of the fire brigade's ability to respond to a fire was challenged. Based on Manual Chapter 0609, Attachment 4, "Issues related to performance of the fire brigade are not included in Appendix F and require NRC management review using Appendix M." In accordance with Manual Chapter 0609, Appendix M, the safety significance of this finding was determined to be of very low safety significance (Green) because the fire brigades were able to meet the required times for fire extinguishment for the fire drill scenarios, and the issue did not significantly affect the ability of the fire brigades to respond to a fire.

The team determined that this finding had a cross-cutting aspect in the area of human performance because NMPNS failed to follow their fire brigade training program procedure which provides the required acceptance criteria. (H.4(b) per IMC 0305)

Enforcement. NMPNS, Unit 1 Technical Specifications, section 6.4.1 and Unit 2 Technical Specifications, section 5.4.1 states that, "Written procedures shall be established, implemented, and maintained covering the following activities: …d. Fire Protection Program Implementation". NMP-TR-1.01-107, "Nuclear Fire Brigade Training Program" requires that fire brigade members maintain qualifications, in part, by completing satisfactory drills. Contrary to the above, NMPNS failed to correctly implement their fire brigade training program procedure. Specifically, unsatisfactory drills were incorrectly determined to be satisfactory which resulted in fire brigade

members losing their qualifications. Because this finding was of very low safety significance (Green) and has been entered into NMPNS corrective action program (CR 2009-003465), this violation is being treated as a NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000220, 05000410/2009006-01, Failure to Implement Fire Brigade Training Procedure)**

.05 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

The team performed document reviews and plant walkdowns of each unit to verify that redundant trains of systems required for hot shutdown are 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 trains (e.g. sprinkler caused flooding of other than the locally affected train); and
- Adequate drainage is provided in areas protected by water suppression systems.

b. Findings

No findings of significance were identified.

.06 Alternative Shutdown Capability

a. Inspection Scope

Alternative shutdown capability is discussed in section 1R05.01 of this report.

.07 Circuit Analysis

a. Inspection Scope

NRC Inspection Procedure 71111.05TTP, “Fire Protection-NFPA 805 Transition Period (Triennial),” reduces the scope of this inspection by specifically excluding review of circuit configurations for plants transitioning their fire protection program to the requirements of NFPA 805.

.08 Communications

a. Inspection Scope

The team reviewed safe shutdown procedures, the safe shutdown analyses, and associated documents to verify an adequate method of communications would be available to plant operators following a fire for each unit. During this review the team considered the effects of ambient noise levels, clarity of reception, reliability, and coverage patterns. The team also inspected the designated emergency storage lockers to verify the availability of portable radios for the fire brigade and for plant operators. The team also verified that communications equipment such as 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 for each unit to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation and/or instrumentation monitoring for post-fire safe shutdown. The team also verified that the battery power supplies were rated for at least an eight-hour capacity. Preventive maintenance procedures, the vendor manuals, completed surveillance tests, and battery replacement practices were also reviewed to verify that the emergency lighting was being maintained in a manner that would ensure reliable operation.

b. Findings

No findings of significance were identified.

.10 Cold Shutdown Repairs

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems

.01 Corrective Actions for Fire Protection Deficiencies

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The team presented their preliminary inspection results to Mr. S. Belcher, Site Vice President, and other members of the site staff at an exit meeting on June 19, 2009. No proprietary information was included in this inspection report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Belcher,	Site Vice President, Nine Mile Point Nuclear Power Station
B. Bryne,	Manager Nuclear Safety and Security
W. Bush,	Engineering Programs
J. Dean,	Director Quality & Performance Assessment
S. Doty,	Manager Maintenance
E. Dunn,	Electrical Engineer
K. Engelmann,	Licensing
J. Evans,	LIPA
J. Gerber,	Manager IWM
J. Krakuszeski,	Manager Operations
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P. Mazzaferro	Assistant Manager Engineering
T. Mogren,	Operations Support
J. Pacher,	Manager Engineering Services
S. Savar,	Appendix R Engineer
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T. Shortell,	Manager Training
W. Sullivan,	Engineering Programs
T. Syrell,	Director Licensing
J. Yoe,	Plant General Manager

NRC

J. Rogge, Chief, Engineering Branch 3, Division of Reactor Safety
C. Cahill, Senior Reactor Analyst, Division of Reactor Safety
E. Knutson, Senior Resident Inspector, Nine Mile Point Nuclear Station
D. Dempsey, Resident Inspector, Nine Mile Point Nuclear Station

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Opened and Closed

NCV	05000220, 05000410/2009006-01	Failure to Implement Fire Brigade Training Program Procedure (Section 1R05.04)

Closed

NONE

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Basis Documents

Nine Mile Point 1 & 2 Updated Safety Analysis Reports
NIP-FPP-01, Fire Protection Program, Rev. 15
OS-FT-035-FHA-3-01, Fire Hazards Analysis for Nine Mile Point, Rev. 2
Safety Evaluation Report U2, 1985

Calculations/Engineering Evaluation Reports

AE-98-1084, Safe Shutdown Analysis for Nine Mile Point 2, 10/1984
EOP-2, NMP1 RPV Control, Rev. 01400
FPEE 0-97-001, 10CFR50, III.J Emergency Lighting, Rev.4
FPEE-1-04-004, Validation of NMP1 Post Fire Safe Shutdown Manual Actions, Rev. 2
GE-NE-B13-01869-11, NMP2 Appendix R Safe Shutdown Evaluation, Rev. 01
Grinnell Hydraulic Design Information Sheet, Rev. 1
Nine Mile Point Unit #1 Fire Damage Repair Procedure Time Lines, Dated 11/27/00
NSEO-102-1182, Analysis in Support of Nine Mile Point 1 Compliance to Appendix R, 11/1982
S0-FLOOD-F001, Internal Flooding Hazard Analysis, Rev. 1
S0-GOTHIC-APPR01, Appendix R Containment Pressure Transient Evaluation, Rev. 0
S12-60M003, Investigate Emergency Cooling System Makeup Flows to Loop 12, Rev. 0
S13.1-100-F002, Fire Protection Water Supply, Rev. 0
S22.2-XX-EOP001, NMP1 Appendix R Safe Shutdown Analysis with 2 ECs, Rev. 1
125VDCSYSTEMAPPR, 125VDC System Appendix R Battery Sizing, Rev. 6

Condition Reports

2004-000788	2004-001371	2005-005238	2006-002230
2006-002235	2006-002402	2006-002433	2006-002434
2006-002437	2006-002442	2006-002452	2007-001910
2007-002280	2007-002407	2007-002768	2007-002621
2007-003310	2007-004109	2007-005541	2007-007448
2008-000218	2008-000453	2008-000455	2008-003519
2008-007863	2009-000018	2009-000245	2009-000262
2009-000975	2009-002265	2009-002960*	2009-002978*
2009-002979*	2009-002980*	2009-002981*	2009-003023*
2009-003140*	2009-003141*	2009-003189*	2009-003201*
2009-003225*	2009-003231*	2009-003324*	2009-003322*

2009-003326*	2009-003384*	2009-003386*	2009-003423*
2009-003427*	2009-003441*	2009-003448*	2009-003462*
2009-003466*	2009-003469*	2009-003470*	2009-003477*

* Identified as a result of this inspection.

Completed Tests/Surveillances

N1-ISP-060-004, Remote Shutdown Emergency Condenser Level Control Loop Calibration, Rev. 3, completed 3/30/09
N1-PM-C3, Electrical and Diesel Fire Pump Performance Tests, Rev. 8, completed 9/26/07
N1-FPM-FPE-A001, Annual Inspection of Portable Fire Extinguishers, Rev. 1200, completed 2/20/09
N1-FST-FPL-A001, Low Pressure Carbon Dioxide System Functional Test, Rev. 800, completed 3/26/08
N1-FST-FPW-3Y001, Fire Hose Hydrostatic Test, Rev. 5, completed 1/22/07
N1-FST-FPW-A005, Fire System Valve Cycling, completed 1/30/09
N1-FST-FPP-C001, Fire Barrier/Penetration Sealing Inspection, Rev. 6, completed 3/17/07
N2-EPM-FPW-W678, Weekly Diesel Driven Fire Pump Battery Test, Rev. 4, completed 6/8/09
N2-EPM-FPW-0679, Quarterly Diesel Driven Fire Pump Battery Test, Rev. 2, completed 5/11/09
N2-EPM-GEN-R576, Remote Shutdown Panel 2CES*PNL405 Switch Checks, completed 5/8/09
N2-EPM-GEN-V628, Battery Equalizing Charge, Rev. 6, completed 2/10/09
N2-EPM-GEN-671, NSR Battery Connection Resistance PM, Rev. 1, completed 10/27/08
N2-FPM-FPP-R002, BOP Fire Damper Operation and Inspection, Rev. 4, completed 4/6/08
N2-FPM-FPL-001, CO2 Concentration Verification, Rev. 0, completed 6/21/86
N2-FPM-FPL-001, CO2 Concentration Verification, Rev 0, completed 10/30/87
N2-FPM-FPL-001, CO2 Concentration Verification, Rev. 0 completed 12/2/87
N2-FPM-FPL-R004, CO2 Hose Reel Visual Inspection and System Operability Test, Rev. 1, completed 3/24/08
N2-FSP-FPW-5Y001, FPW System Flow Test, Rev. 0, completed 12/1/05
N2-FSP-FPW-R001, Electric/Diesel Fire Pump Functional Test, Rev. 6, completed 1/10/07
N2-FSP-FPW-R001, Electric/Diesel Fire Pump Functional Test, Rev. 6, completed 8/4/08
N2-FSP-FPP-R001, Fire Rated Assemblies and Watertight Penetration Visual Inspection, Rev. 3, completed 4/8/08
N2-MPM-FPW-A854, Diesel Driven Fire Pump Engine Inspection, Rev. 4, completed 5/2/08
N2-OSP-ADS-R002, ADS System Functional Tests and Remote Shutdown System Test, completed 4/10/08
N2-OSP-RSS-R003, Service Water Shutdown Operability Test, completed 9/17/07
N2-OSP-RSS-R005, RHS Shutdown and Suppression Pool Cooling Mode Remote Shutdown System Test, completed 4/9/08

Drawings and Wiring Diagrams

B-42346-C, Fire Barrier Penetration Seal Details, Rev. 2
C-18030-C, Fire Protection Water System, Rev. 36
C-18047-C, Control Room Heating Ventilating and Air Conditioning System, Rev. 37
C-18869-C, Ventilating Exhaust System Make-up Air Supply Fan SF-3, Rev. 2

C-18872-C, Turbine Building Air Conditioning and Ventilating Details, Rev. 1
C-18858-C, Turbine Building Ventilating Ductwork, Rev. 7
C-19409-C, One Line Diagram 4160 Emergency System PB 102 & 103, Sheet 3, Rev. 26
C-19839-C, 125VDC Control Bus Battery Board 11, Sheet 3, Rev. 20
C-19839-C, 125VDC Control Bus Battery Board 12, Sheet 2, Rev. 20
C-42355-C, Fire Damper Schedule, Rev. 2
EA-046L, Access Floor Plans, Control Room Building, Rev. 9
EA-046N, Miscellaneous Details, Control Room Building, Rev. 3
EE-1D, Main One Line Diagram Emergency 4.16kV and 600V System, Rev. 17
EE-65A, Lighting Plan Control Building, Rev. 13
EE-66H, Lighting Plan – Turbine Building Clean Access Area, Rev. 6
EE-78A, Lighting Plan Electrical Bay, Rev. 5
ESK-5EGP01, 4.16kV Switchgear Control Standby Diesel Generator 2EGS*EG1 ACB 101-1, Sheet 1, Rev. 19
ESK-5ENS02, 4160V Emergency Switchgear ACB101-11 Control, Rev. 19
ESK-5ENS05, 4160V Emergency Switchgear ACB101-10 Control, Rev. 20
ESK-5ENS08. 4160V Emergency Switchgear ACB101-13 Control, Rev. 19
ESK-6CSH03, 600V MCC Circuit High Pressure Core Spray MOV's, Rev. 13
ESK-11RSS02, ADS/Safety Relief Valves, Rev. 7
ESK-11RSS03, ADS/Safety Relief Valves, Rev. 8
ESK-11RSS04, ADS/Safety Relief Valves, Rev. 7
ESK-11RSS06, Remote Shutdown System, Rev. 10
LSK-24-9.1A, Logic Diagram Standby Station Service Supply Breaker Controls, Rev. 10
LSK-24-9.2A, Logic Diagram Standby Generator Breaker Control, Rev. 12
LSK-24-9.2B, Logic Diagram Standby Generator Breaker Control, Rev. 10
LSK-24-9.3A, Logic Diagram – Standby Generator Control and Protection, Rev. 10
LSK-24-9.3C, Logic Diagram – Standby Generator Control and Protection, Rev. 9
LSK-24-9.4A, Logic Diagram Standby Diesel Generator Load Sequence, Rev. 12
NMP-E-01-03, Fire, Air & Water Seal Electrical Penetration Silicone Foam Floor/Wall, Rev. 3
NMP-E-04-05 Sht. J, Air & Water Seal Electrical Penetration Silicone Foam Floor/Wall, Rev. 5
NMP-E-04-05 Sht. 2, Air & Water Seal Electrical Penetration Silicone Foam Floor/Wall, Rev. 2
NMP2-P402G, Sprinkler System Div I Cable Chase Zone 321NW & 332NW El. 237'0" & 261'0", Rev. 4
NMP2-P413L, Fire Dampers, Rev. 3
3-N2.1-E21.1, AC Station Power Distribution, Sheet 1B, Rev. 13
3-N2.1-E21.1, NMP One Line Diagram, Auxiliary System, Sheet 1, Rev. 10
3-N2.1-E21.1, One Line Diagram, 4160 Power Boards, Sheet 2, Rev. 32
14456-2, Fire Damper Model-319ALV 3HR UL Labeled, Vertical Mount, Rev. C
14456-4. Models 119 ALH+V and Models 319 ALH+V Fire Damper Installation Instructions, Rev. E
0010450922059 Sh. 1, Heating Ventilation & Air Conditioning Backdraft Damper Category 1, Rev. 0

<u>Fire Brigade Training and Drills/Critiques</u>

NMP-TR-1.01-107, Nuclear Fire Brigade Training Program, Rev. 00600
S-SAD-FPP-0102, Fire Department Shift Turnover, Rev. 02
S-SAD-FPP-0101, Fire Watch/Patrol Inspection, Rev. 00400

S-SAD-FPP-0105, Compensatory Measures for Inoperable Fire Protection Systems and Components, Rev. 01500
OS-FT-004-FSC-3-00, Fire School Live Practical Evolutions, Rev. 7
OS-FT-010-SFP-3-00, Station Fire Plan, Rev. 4
OS-FT-FIR-SCN-2-10, Critique, 2/19/09
OS-FT-FIR-SCN-2-13, Critique, 2/6/09
OS-FT-FIR-SCN-2-02, Critique, 3/6/09
OS-FT-FIR-SCN-2-06, Critique, 3/16/09
OS-FT-FIR-SCN-2-05, Critique, 3/18/09
OS-FT-FIR-SCN-2-04, Critique, 12/4/08
OS-FT-FIR-SCN-2-07, Critique, 12/4/08
OS-FT-FIR-SCN-1-01, Critique, 12/9/08
OS-FT-FIR-SCN-2-06, Critique, 12/18/08
OS-FT-FIR-SCN-1-15, Critique, 2/6/09
OS-FT-FIR-SCN-2-03, Critique, 11/15/08

Hot Work and Ignition Source Permits

HWP-31128
HWP-31129
HWP-31547
HWP-31548
HWP-31618
HWP 31804
HWP 31865

Miscellaneous Documents

N1-102, Purchase Order for Diesel Fire Pump System Parts, dated 3/12/65
S-MAP-MAI-0109, 2-Scaffold-DG-284-013, Scaffold Control Form, Rev. 7, 4/27/09
Unit 1 and Unit 2 Day Shift Compliment, 6/1/09
Unit 1 and Unit 2 Technical Specifications
Unit 1 Control Room Log dated December 6, 2007
Unit 2 Control Room Log dated December 6, 2007
U2 Fire Protection Comp Actions, 6/16/09

Operations Procedures

N1-DRP-GEN-004, Emergency Damage Repair for Fire Zones C2 and C3, Rev. 6
N1-DRP-GEN-005, Emergency Damage Repair for Fire Area 5, Rev. 6
N1-DRP-OPS-001, Damage Repair Procedure, Rev. 00700
N1-OP-4, Shutdown Cooling System, Rev. 02801
N1-OP-45, Emergency Diesel Generators, Rev. 02700
N1-SOP-21.1, Fire in Plant, Rev. 2
N1-SOP-21.2, Control Room Evacuation, Rev. 3
NDD-OPS, Operations, Rev. 21
N2-OP-78, Remote Shutdown System, Rev. 12

N2-SOP-34, Stuck Open Safety Relief Valve, Rev. 4
N2-SOP-78, Control Room Evacuation, Rev. 5

Piping and Instrumentation Diagrams

PID-43A-15, PI&D Fire Protection – Water, Rev. 15
PID-66E-8, PI&D Miscellaneous Drains, Rev. 6

Pre-Fire Plans

N2-FPI-PFP-0201, Division I Riser Area, 237 Elev/N2-PFP-CB237-1, Rev. 0
N2-FPI-PFP-0201, PGCC Relay Room, 288 Elev/N2-PFP-CB288-3, Rev. 0
N2-FPI-PFP-0201, Main Plant Computer Room, 288 Elev/N2-PFP-CB288-4, Rev. 0
N2-FPI-PFP-0201, Division I Cable Chase West, 288 Elev/N2-PFP-CB288-2, Rev. 0
N2-FPI-PFP-0201, Division I Cable Chase West, 306 Elev/N2-PFP-CB306-1, Rev. 0
N2-FPI-PFP-0201, Division II Diesel Generator, 261 Elev/N2-PFP-DG261-3, Rev. 0
N2-FPI-PFP-0201, West Normal Switchgear Bldg, 237 Elev/N2-PFP-NS237-01, Rev. 0

Procedures

EPIP-EPP-17, Emergency Communications Procedure, Rev. 13
EPIP-EPP-32, Resource and Communications Contingency Guidelines, Rev. 6
GAP-INV-02, Control of Material Storage Areas, Rev. 02200
GAP-FPP-02, Control of Hot Work, Rev. 10
GAP-FPP-03, Breach Permit, Rev. 11
GAP-OPS-06, Communication Systems, Rev. 00700
NEP-FPP-01, Fire Protection Engineering, Rev. 13
NI-1500, Rev. 0, 4/23/09
NI-1387, Rev. 0, 5/4/09
NIP-INV-01, Material Control, Rev. 13
NMP2-E062A, Electrical Installation and Field Modifications to the Power Generation Control Complex (PGCC), Rev. 7
N1-FPI-PFP-0101, Fire Protection Instruction, Rev. 1
N1-FPM-FPG-A002, BOP Halon Storage Cylinder Weight/Pressure Check, Rev. 00301
N1-FST-FPL-A001, Low Pressure Carbon Dioxide System Functional Test, Rev. 800
N1-OP-21C, Fire Protection System – LP/HP CO2, Rev. 8
N1-OP-51, Communications System, Rev. 9
N2-ARP-01, Control Room Alarm Response Procedure, Rev. 0
N2-EPM-GEN-R@576, Remote Shutdown Panel 2CES*PNL405 Switch Checks, Rev. 1
N2-EPM-RSS-578, 2CES*PNL415 and 2CES*PNL416 Switch Checks, Rev. 0
N2-FPM-FPE-M002, Fire Protection Monthly Inspection, Rev. 2
N2-FSP-FPW-A003, FPW System Valve Cycling, Rev. 6
N2-OP-57, Diesel Generator Building Ventilation System, Rev. 5
N2-OP-76, Plant Communications, Rev. 2
N2-OP-101C, Plant Shutdown, Rev. 19
N2-OSP-ADS-R002, ADS Sys. Functional Tests and Remote Shutdown Sys. Test, Rev. 3
N2-OSP-ADS-R002, ADS Sys. Functional Tests and Remote Shutdown Sys. Test, Rev. 5
N2-OSP-RSS-R001, RCIC Remote Shutdown System Test, Rev. 3

N2-OSP-RSS-R003, Service Water Shutdown Operability Test, Rev. 1
N2-OSP-RSS-R005, RHS Shutdown and Suppression Pool Cooling Mode Remote Shutdown System Test, Rev. 3
S-MAP-MAI-0109, NMPNS Scaffold Program, Rev. 7
S-SAD-FPP-0104, Control of Fire Detection Systems, Rev. 2
S-SAD-FPP-0105, Compensatory Measures for Inoperable Fire Protection Systems and Components, Rev. 1500

Quality Assurance (QA) Audits and Self Assessments

FSA-2007-11, Fire Protection Programs Self Assessment, 10/2007
FSA-2008-0036-09, Fire Protection Program Self Assessment, 12/08
QPA Assessment Report 08-009, Fire Brigade Performance, 1/31/08
QPA Assessment Report 09-027, Readiness for 2009 Triennial Fire Protection Inspection, 2/25/09
QPA Assessment Report 08-024, Fire Protection Procedure Quality, 3/18/08

System Health Reports

NMP1, Fire Health Report, 4th Quarter 2008
NMP2, Fire Health Report, 4th Quarter 2008

Vendor Manuals

N2L119608MISE001, Emergency Light B200 Series Vendor Manual, 8/20/04

Work Orders

93-00014-00
94-03112-00
08-07385-00

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AC	Alternating Current
CFR	Code of Federal Regulations
CR	Condition Report
CO_2	Carbon Dioxide
DRS	Division of Reactor Safety
EC	Emergency Condenser
ERV	Electromatic Relief Valve
FA	Fire Area
FHA	Fire Hazards Analysis
FPP	Fire Protection Program
FZ	Fire Zone
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPE	Individual Plant Examination
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
MD	Management Directive
NCV	Non-cited Violation
NFPA	National Fire Protection Association
NMPNS	Nine Mile Point Nuclear Station
NRC	Nuclear Regulatory commission
PAR	Publicly Available Records
P&ID	Piping and Instrumentation Drawing
QA	Quality Assurance
SCBA	Self-Contained Breathing Apparatus
SER	Safety Evaluation Report
SRA	Senior Risk Analyst
SUNSI	Sensitive Unclassified Non-Safeguards Information
UFSAR	Updated Final Safety Analysis Report