



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
KING OF PRUSSIA, PA 19406-2713
2100 RENAISSANCE BLVD., SUITE 100

July 29, 2015

Mr. Peter M. Orphanos, Site Vice President
Nine Mile Point Nuclear Station, LLC
Exelon Generation Company, LLC
P.O. Box 63
Lycoming, NY 13093-0063

SUBJECT: NINE MILE POINT NUCLEAR STATION - TRIENNIAL FIRE PROTECTION
INSPECTION REPORT 05000220/2015007 AND 05000410/2015007

Dear Mr. Orphanos:

On July 9, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed a triennial fire protection inspection at Nine Mile Point Nuclear Station (NMPNS). The enclosed inspection report documents the inspection results, which were discussed on July 9, 2015, with yourself 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 inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. The inspectors also reviewed mitigation strategies for addressing large fires and explosions.

No NRC identified or self-revealing findings were identified.

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

Sincerely,

/RA/

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

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

P. Orphanos

- 2 -

Enclosure:
Inspection Report 05000220/2015007
and 05000410/2015007 w/Attachment:
Supplemental Information

cc w/encl: Distribution via ListServ

P. Orphanos

- 2 -

Enclosure:
Inspection Report 05000220/2015007
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Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos. 50-220 and 50-410

License Nos. DPR-63 and NPF-69

Report Nos. 05000220/2015007 and 05000410/2015007

Licensee: Exelon Generation Company, LLC

Facility: Nine Mile Point Nuclear Station

Location: 348 Lake Road, Oswego, NY 13126

Dates: June 22 - 26 and July 6 - 9, 2015

Inspectors: R. Fuhrmeister, Senior Reactor Inspector (Team Leader)
W. Schmidt, Senior Reactor Analyst
F. Arner, Senior Reactor Inspector
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T. O'Hara, Reactor Inspector
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H. Barrett, Sr., Fire Protection Engineer,
Office of Nuclear Reactor Regulation

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

SUMMARY

IR 05000220/2015007 and 05000410/2015007; 06/22/2015 – 06/26/2015 and 07/06/2015 – 07/09/2015; Exelon Generation Company, LLC; Nine Mile Point Nuclear Station; Triennial Fire Protection Baseline Inspection.

The report covered a two-week triennial fire protection team inspection by specialist inspectors. No NRC or self-revealing findings were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process." Cross-cutting aspects associated with findings are determined using IMC 0310, "Components Within The Cross-Cutting Areas." 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 5.

Cornerstone: Initiating Events and Mitigating Systems

No findings were identified.

Other Findings

Two violations of very low safety significance that were identified by Exelon were reviewed by the inspectors. Corrective actions taken or planned by Exelon have been entered into Exelon's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Background

This report presents the results of a triennial fire protection inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05T, "Fire Protection," and 71111.05XT, "Fire Protection – NFPA 805." The objective of the inspection was to assess whether Exelon Generation Company, LLC (Exelon) has implemented an adequate fire protection program and that post-fire safe shutdown capabilities have been established and are being properly maintained at the NMPNS facility. The following fire zones (FZs) were selected for detailed review based on risk insights from the NMPNS Unit 2 Individual Plant Examination of External Events (IPEEE) and the NMPNS Unit 1 Fire Probabilistic Risk Assessment (PRA).

Unit 1

R1D CS Pump Room 198'
R4C EC Isolation Valve Room 281'
T2D Turbine Bldg Gen Area E 250'
S1 Screenhouse 225' – 256'

Unit 2

333XL Div I Standby Switchgear Room
357XL PGCC Computer Room
213SW S Reactor Bldg 175'
602XL E Normal Switchgear Room

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

The inspection team evaluated Exelon's fire protection program (FPP) against applicable requirements which included Operating License Condition 2.D (7) for Unit 1, Operating License Condition 2.F for Unit 2, NRC Safety Evaluations, 10 CFR 50.48, Branch Technical Position (BTP) Chemical Engineering Branch (CMEB) 9.5-1, and NFPA 805. The team also reviewed related documents that included the Updated Final Safety Analysis Report (UFSAR), Section X.K for Unit 1 and Section 9.5.1 for Unit 2, the fire hazards analysis (FHA) for Unit 2, the post-fire safe shutdown analysis for Unit 2, and the Nuclear Safety Capability Assessment for Unit 1.

The team also evaluated two mitigating strategies (one each for Unit 1 and Unit 2) for addressing large fires and explosions as required by Operating License Condition 2.D (13) for Unit 1, Operating License Condition 2.C(17) for Unit 2, and 10 CFR 50.54 (hh)(2). Inspection of these strategies fulfills the inspection procedure requirement to inspect a minimum of one sample.

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 Protection of Safe Shutdown Capabilitiesa. Inspection Scope**Unit 1**

The team reviewed NMP Unit 1 Nuclear Safety Capability Assessment (NSCA) documents to verify that the shutdown methodology properly identified the components and systems necessary to achieve safe and stable plant conditions for a fire under any plant operational mode or configuration. For each of the selected fire areas, the team reviewed NSCA fault tree logic model for the development of the safe shutdown (SSD) success path, equipment selection, and the Fire Risk Evaluation (FRE) report. This review included an assessment of the adequacy of the selected systems for reactivity control, inventory and pressure control, decay heat removal, process monitoring, and associated vital auxiliary support system functions.

Unit 2

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 applicable separation requirements of BTP 9.5-1 and Nine Mile's design and licensing bases 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.

b. Findings

No findings were identified.

.02 Passive Fire Protectiona. Inspection Scope

The team walked down accessible portions of the selected fire areas to evaluate whether the material conditions of the fire area boundaries were adequate for the fire hazards in the area. The team compared the fire area boundaries, including walls, ceilings, floors, fire doors, fire dampers, penetration seals, electrical raceway and conduit fire barriers, and redundant equipment fire barriers and radiant energy heat barriers to design and licensing basis requirements, industry standards, and the NMPNS FPP, as approved by the NRC, to identify any potential degradation or non-conformances.

The team reviewed selected engineering evaluations, and qualification records for a sample of penetration seals to determine whether the fill material was properly installed and whether the as-left configuration satisfied design requirements for the intended fire rating.

The team also reviewed recent inspection and functional test records for fire dampers, and the inspection records for penetration seals and fire barriers, to verify whether the inspection and testing was adequately conducted, the acceptance criteria were met, and any potential performance degradation was identified. In addition, the team reviewed recent test results for the carbon dioxide (CO₂) and Halon fire damper functionality tests for the areas protected to verify the testing was adequately conducted, the acceptance criteria were met, and any performance degradation was identified.

b. Findings

No findings were identified.

.03 Active Fire Protection

a. Inspection Scope

The team evaluated manual and automatic fire suppression and detection systems in the selected fire areas to determine whether they were installed, tested, maintained, and operated in accordance with NRC requirements, National Fire Protection Association (NFPA) codes of record, and the NMPNS FPP, as approved by the NRC. The team also assessed whether the suppression systems capabilities were adequate to control and/or extinguish fires associated with the hazards in the selected areas.

The team reviewed the as-built capability of the fire water supply system to verify the design and licensing basis and NFPA code of record requirements were satisfied, and to assess whether those capabilities were adequate for the hazards involved. The team reviewed the fire water system to assess the adequacy of a single fire water pump to supply the largest single hydraulic load on the fire water system plus concurrent fire hose usage. The team evaluated the fire pump performance tests to assess the adequacy of the test acceptance criteria for pump minimum discharge pressure at the required flow rate, to verify the criteria was adequate to ensure that the design basis and hydraulic analysis requirements were satisfied. The team also evaluated the underground fire loop flow tests to verify the tests adequately demonstrated that the flow distribution circuits were able to meet design basis requirements. In addition, the team reviewed recent pump and loop flow test results to verify the testing was adequately conducted, the acceptance criteria were met, and any potential performance degradation was identified.

The team reviewed initial discharge testing, design specifications, engineering evaluations, and routine functional testing for the carbon dioxide (CO₂) and Halon suppression systems for the areas so protected. The team walked down accessible portions of the CO₂ and Halon systems, including storage tanks and supply systems, to independently assess the material condition, operational lineup, and availability of the systems. The team also reviewed and walked down the associated fire fighting strategies and CO₂ and Halon system operating procedures.

The team walked down accessible portions of the detection and water suppression systems in the selected areas and major portions of the fire water supply system, including motor and diesel driven fire pumps, interviewed system and program engineers, and reviewed selected condition reports (CRs) to independently assess the material condition of the systems and components. In addition, the team reviewed recent test results for the fire detection and suppression systems for the selected fire areas to verify the testing was adequately conducted, the acceptance criteria were met, and any performance degradation was identified.

The team assessed the fire brigade capabilities by reviewing training, qualification, and drill critique records. The team also reviewed Exelon's fire fighting strategies (i.e., 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. The team independently inspected the fire brigade equipment, including personnel protective gear (e.g., turnout gear) and smoke removal equipment, to determine operational readiness for firefighting. In addition, the team reviewed Exelon's fire brigade equipment inventory and inspection procedure and recent inspection and inventory results to verify adequate equipment was available, and any potential material deficiencies were identified.

b. Findings

No findings were identified.

.04 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

The team performed document reviews and plant walkdowns to verify that redundant trains of systems required for hot shutdown, which are located in the same fire area, 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 indirectly, 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 indirectly 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 were identified.

.05 Post-Fire Safe Shutdown Capability – Normal and Alternative

a. Inspection Scope

Unit 1

The team verified that Exelon performed a NSCA for the selected fire areas, and the assessment appropriately identified the structures, systems, and components necessary to achieve safe and stable plant conditions. For each of the selected fire areas, the team reviewed the electrical schematics, flow diagrams, and the NSCA to identify any potential fire-induced cable damage that could directly affect the nuclear safety performance criteria. The team selected a sample of SSD components to verify that all appropriate cables had been selected and incorporated into the NSCA. The team then evaluated selected components to ensure all fire scenarios had been identified, and dispositioned for all mode of operations.

The team verified that Exelon's analysis ensured that necessary electrical circuits were properly protected; and that circuits that could adversely impact nuclear safety performance criteria due to hot shorts or shorts to ground were identified, evaluated, and dispositioned to ensure spurious actuations would not prevent safe and stable plant conditions. The review considered fire and cable attributes, cable routing, potential undesirable consequences, and common power supply/bus concerns. Specific items included the credibility of the fire threat, cable insulation attributes, cable failure modes, and actuations resulting in flow diversion or loss of coolant events.

Review of circuit analysis was performed for the following components:

- PSV-01-102A, Pressure Safety Valve – ADS Electromatic Relief Valve 111;
- PMP-81-21, Core Spray Pump 112;
- BKR-(102/2-1) R1022/571, Diesel Generator 102 Output Breaker to PB102; and,
- LI-36-28, Level Indicator – High/Low Reactor Vessel Level

The team verified that the transfer of control from the control room to the primary control station would not be affected by fire-induced circuit faults (e.g., by the provision of separate fuses and power supplies for alternative shutdown control circuits).

Unit 2

The team reviewed the safe shutdown analysis, operating procedures, piping and instrumentation drawings (P&IDs), electrical drawings, the UFSAR and other supporting documents for the selected fire areas to verify that NMPNS had properly identified the systems and components necessary to achieve and maintain safe shutdown conditions. The team assessed the adequacy of the selected systems and components for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring, and support system functions. This review included verification that alternative post-fire shutdown could be performed both with and without the availability of offsite power. Plant walkdowns were also performed to verify that the plant configuration was consistent with that described in the safe shutdown and fire hazards analyses. The team verified that the systems and components credited for use during shutdown would remain free from fire damage.

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

The team reviewed the adequacy of procedures utilized for post-fire shutdown and performed an independent walk through of procedure steps to ensure the implementation and human factors adequacy of the procedures. The team also verified that the operators could be reasonably expected to perform specific actions within the time required to maintain plant parameters within specified limits.

Specific procedures reviewed for normal and alternative post-fire shutdown included the following:

N2-SOP-78, Control Room Evacuation, Revision 00704

N2-EOP-RPV, RPV Control, Revision 01400

N2-ARP-FPM, Fire Computer System Alarm Response Procedures, Revision 00900

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

b. Findings

No findings were identified.

.06 Circuit Analysis

a. Inspection Scope

Unit 1

The inspectors verified that Exelon performed a Nuclear Capability Safety Assessment (NCSA) for the selected fire areas, and that the assessment identified the structures, systems and components important for achieving safe and stable conditions. For each fire area, the inspectors reviewed electrical schematics, flow diagrams, and the NCSA to identify any potential fire-induced cable damage that could directly affect post-fire safe shutdown. The inspectors reviewed a sample of circuit diagrams to verify that all appropriate cables had been selected and incorporated into the NCSA. The inspectors then evaluated selected circuits to ensure all fire scenarios had been identified, and dispositioned for all modes of operation including shut down operations, and abnormal plant configurations.

The inspectors verified that the NCSA demonstrated that hot shorts, shorts to ground, or other failures that could result in a spurious actuation will not affect the capability to meet the performance criteria. The inspectors verified that Exelon's assessment identified circuits that may impact the Nuclear Safety Performance Criteria. The assessment demonstrated that hot shorts, shorts to ground or other failures that would not result in a spurious actuation will not affect the capability to meet the performance criteria. The inspectors reviewed the fire scenarios and cable attributes, potential undesirable consequences, and common power supply/bus concerns.

The inspectors also reviewed Exelon's response to multiple spurious operations as identified by Nuclear Energy Institute document NEI 00-01, and the site's Expert Panel. The review ensured that Exelon followed the approved guidance provided in NEI 00-01, evaluated all appropriate MSO scenarios, and properly addressed any discrepancies.

Unit 2

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

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

The team also reviewed cable raceway drawings and/or cable routing databases for a sample of components required for post-fire safe shutdown to verify that cables were routed as described in the safe-shutdown analysis. The team also reviewed equipment important to safe shutdown, but not part of the success path, to verify that Exelon had taken appropriate actions in accordance with the design and licensing basis and NRC Regulatory Guide 1.189, Revision 2.

Circuit analysis was performed for the following components:

2CSH*MOV107	HPCS Discharge Valve
2CSH*MOV118	HPCS Suction Valve from Suppression Pool
2RHS* MOV40A(B)	RHR A & B Shutdown Cooling Return Valves
2RSS* LI101(112)	Reactor Vessel Wide Range Water Level Indicators

The team reviewed a sample of 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 that could result in a common power supply or common bus concern.

The team verified that the transfer of control from the control room to the alternative shutdown location(s) would not be affected by fire-induced circuit faults (e.g., by the provision of separate fuses and power supplies for alternative shutdown control circuits).

b. Findings

No findings were identified.

.07 Communications

a. Inspection Scope

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

b. Findings

No findings were identified.

.08 Emergency Lighting

a. Inspection Scope

The team observed the placement and coverage area of eight-hour emergency lights throughout the selected fire areas to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation or instrumentation monitoring for post-fire safe shutdown. The team also verified that the battery power supplies were rated for at least an eight-hour capacity. Preventive maintenance procedures, the vendor manual, completed surveillance tests, and battery replacement practices were also reviewed to verify that the emergency lighting was being maintained consistent with the manufacturer's recommendations and in a manner that would ensure reliable operation.

b. Findings

No findings were identified.

.09 Cold Shutdown Repairs

a. Inspection Scope

Unit 1

The inspectors determined that NMPNS Unit 1 does not credit cold shutdown repairs to meet the Nuclear Safety Performance Criteria. The inspectors reviewed the NSCA and determined that Nine Mile Unit 1 does not require transitioning to cold shutdown to achieve a safe and stable condition.

Unit 2

The inspectors determined that NMPNS Unit 2 does not credit cold shutdown repairs to achieve safe and stable shutdown conditions. The separation built into the plant during construction ensures the survival of one train of equipment necessary to achieve cold shutdown.

b. Findings

No findings were identified.

.10 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 NMPNS was effective in returning the equipment to service in a reasonable period of time.

b. Findings

No findings were identified.

.11 Fire Protection Program Changes

a. Inspection Scope

The team reviewed recent changes to the approved fire protection program to verify that the changes did not constitute an adverse effect on the ability to safely shutdown.

b. Findings

No findings were identified.

.12 Control of Transient Combustibles and Ignition Sources

a. Inspection Scope

The team reviewed Exelon'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 transient combustibles and ignition sources were being implemented in accordance with the administrative controls.

b. Findings

No findings were identified.

.13 Large Fires and Explosions Mitigation Strategies

a. Inspection Scope

The team reviewed Exelon's preparedness to handle large fires or explosions by reviewing a mitigating strategy for each Unit to verify that they continue to meet 10 CFR 50.54 (hh)(2) by determining that:

- Procedures are being maintained and adequate;
- Equipment is properly staged and is being maintained and tested; and,
- Station personnel are knowledgeable and can implement the procedures

b. Findings

No findings were identified.

.14 Radiological Release (Unit 1)

a. Inspection Scope

The inspectors verified that Exelon had provided reasonable assurance that a fire would not result in a radiological release that adversely affects the public, plant personnel, or the environment in accordance with NFPA 805, Section 1.3.2. The inspectors verified that Exelon had evaluated the potential for radioactive releases to any unrestricted areas resulting from fire suppression activities were as-low-as- reasonably-achievable. The inspectors verified that Exelon had analyzed radioactive release on a fire area basis in accordance with NFPA 805, Section 2.2.4. The inspectors walked down the selected fire zones, and verified that the pre-fire plan tactics and instructions were consistent with the potential radiological conditions identified in the fire hazards analysis.

b. Findings

No findings were identified.

.15 Monitoring Program (Unit 1)

a. Inspection Scope

The inspectors reviewed procedure ER-AA-610-1003, "NFPA 805 Monitoring Program," and engineering evaluation FPEE1-14-001, "NFPA 805 Monitoring Process – Scoping and Screening," to verify that a monitoring program was established to ensure that the availability and reliability of the fire protection systems and features credited in the performance based analyses are maintained and to assess the performance of the fire protection program in meeting the performance criteria in accordance with NFPA 805.

Exelon established performance monitoring groups that provide a link between components and functions that are monitored together. The items in scope were being monitored for performance based on the established criteria as part of the system health reports process. The inspectors also verified that the monitoring program initiated appropriate corrective actions to return availability, reliability and performance of systems that fall outside of established levels.

b. Findings

No findings 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 Exelon or NMPNS 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 NMPNS had taken or planned appropriate corrective actions.

b. Findings

No findings were identified.

4OA3 Followup of Events and Notices Of Enforcement Discretion

.01 (Closed) Licensee Event Report 50-220/2013-002: Unanalyzed Condition Caused by Unfused Control Room DC Ammeters

On October 22, 2013, Exelon determined that unfused ammeter indication circuits associated with safety-related Direct Current busses could short circuit due to a fire in the circuit cable routing. This ground fault equivalent hot short could cause the cable to self-heat and lead to secondary fires. The unanalyzed secondary fires could adversely affect safe shutdown equipment and potentially cause the loss of the ability to safely shutdown the unit as required by Condition 2.D(7) of the Renewed Facility Operating License . The enforcement aspects of this issue are discussed in Section 4OA7. The inspectors did not identify any new issues during the review of this LER. This LER is closed.

.02 (Closed) Licensee Event Report 50-410/2013-003: Unanalyzed Condition Caused by Unfused Control Room DC Ammeters

On October 22, 2013, Exelon determined that unfused ammeter indication associated with safety-related Direct Current busses could short circuit due to a fire in the circuit cable routing. This ground fault equivalent hot short could cause the cable to self-heat and lead to secondary fires. The unanalyzed fires could adversely affect safe shutdown equipment and potentially cause the loss of the ability to safely shutdown as required by Condition 2.F of the Renewed Facility Operating License. The enforcement aspects of this issue are discussed in Section 4OA7. The inspectors did not identify any new issues during the review of this LER. This LER is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The team presented their preliminary inspection results to Mr. P. Orphanos, Site Vice President, and other members of the site staff at an exit meeting on July 9, 2015. No proprietary information was included in this inspection report.

4OA7 Licensee Identified Violations

The following violations of very low safety significance (Green) were identified by Exelon and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as non-cited violations.

In October 2013, Unit 1 License Condition 2.D7 required NMPNS to implement and maintain in effect all the provisions of the approved fire protection program. That program included the requirement to maintain one train of equipment necessary to achieve and maintain safe shutdown free of fire damage. Contrary to the requirements of License Condition 2.D7, Unit 1 was determined to have unfused safety-related DC ammeter circuits which could be faulted by a fire, and cause secondary fires. These secondary fires could potentially cause the loss of equipment necessary to achieve and maintain safe shutdown. Exelon entered this issue into the corrective action program as CR-2013-008747. The inspectors evaluated this issue using IMC 0609, Appendix F, "Fire Protection Significance Determination Process." The inspectors determined the issue to be of very low safety significance (Green) because a walkdown of the circuit routing in the plant determined that there were no credible fire scenarios to cause the postulated damage.

Unit 2 License Condition 2.F requires NMPNS to implement and maintain in effect all the provisions of the approved fire protection program. That program includes the requirement to maintain one train of equipment necessary to achieve and maintain safe shutdown free of fire damage. Contrary to the requirements of License Condition 2.F, Unit 2 was determined to have unfused safety-related DC ammeter circuits which could be faulted by a fire, and cause secondary fires. These secondary fires could potentially cause the loss of equipment necessary to achieve and maintain safe shutdown.

Exelon entered this issue into the corrective action program as CR-2013-008749. The inspectors evaluated this issue using IMC 0609, Appendix F, "Fire Protection Significance Determination Process."

The inspectors determined the issue to be of very low safety significance (Green) because a walkdown of the circuit routing in the plant determined that there were no credible fire scenarios to cause the postulated damage.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Saunderson, System Engineering Supervisor
W. Sullivan, Fire Protection Engineer
W. Jameson, PRA Engineer
J. Rolince, NMP Fire Marshall
D. Morley, Safe Shutdown Engineer
M. Checola, Fire Protection System Manager
C. Moorhead, Operations Shift Supervisor Unit 2
G. Carter, Operations Shift Supervisor
M. Restani, Plant Operator
M. Dougherty, Operations Instructor
D. VanNamee, Fire Marshal
S. Savar, Safe-Shutdown Engineer

NRC

J. Rogge, Chief, Engineering Branch 3, Division of Reactor Safety
W. Schmidt, Senior Reactor Analyst, Division of Reactor Safety
K. Kolaczyk, Senior Resident Inspector Nine Mile Point
E. Miller, Resident Inspector, Nine Mile Point
G. Stock, Resident Inspector, Nine Mile Point

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Opened and Closed

NONE

Closed

05000220/2013-002	LER	Unanalyzed Condition Caused By Unfused Control Room DC Ammeters
05000410/2013-003	LER	Unanalyzed Condition Caused by Unfused Control Room DC Ammeters

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Fire Protection Licensing Documents

Renewed Facility Operating License DPR-63

Renewed Facility Operating License NPF-69

Nine Mile Point Nuclear Power Station Unit 1, UFSAR, Section X.K

Nine Mile Point Nuclear Power Station Unit 2, UFSAR, Section 9.5.1

E208, NMP1 Nuclear Safety Capability Assessment, Revision 00

DCD-805, Nine Mile Point Unit1 NFPA 805 Design Criteria, Revision 0

CC-AA-211, Fire Protection Program, Revision 6

N1-FRE-F001, Fire Risk Evaluation Report, Revision 2

1NER-1E-037, NMP Unit1 NFPA 805 - Cable Selection, Revision 00.00

Unit 2 Fire Hazards Analysis, USAR, Appendix 9A, Revision 10

Unit 2 Safe Shutdown Analysis, USAR, Appendix 9A, Revision 10

Exelon Nuclear, Nine Mile Point Unit 1, Nuclear Engineering Report:

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1NER-1E-037, Nine Mile Point Unit 1 NFPA 805 – Cable Selection, Revision 0

E208, Nine Mile Point 1 Nuclear Safety Capability Assessment, Revision 0

N1-FQ-F001, Fire PRA Notebook Fire Quantification (FQ), Revision 3

N1-FRE-F001, Fire Risk Evaluation Report, Revision 2

N1-FSS-F001, Fire PRA Notebook Detailed Fire Modeling, Revision 3

N1-IGN-F001, Fire PRA Notebook Ignition Frequency (IGN), Revision 2

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N1-FST-FPG-C002, Halon System Functional Test, Revision 00900
N1-FST-FPM-M003, Operability Checks of Non-Supervised Fire Detection Circuits,
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N1-FST-FPG-C002, Halon System Functional Test, Revision 00901
N1-OP-21F, Fire Protection System – Ventilation (Smoke Removal)
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N1-FST-FPP-C003, Revision 00700, Fire Damper Operation and Inspection

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S-EDMG-01, Loss of a Large Area of the Station, Revision 1

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N2-FPM-FPE-A001, Maintenance and Inspection – Portable Fire Extinguishers,
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N2-FPM-FPE-M002, Fire Protection Monthly Inspection, completed March 2, 2015
N2-FPM-FPG-A002, BOP Halon Tank Agent Content Check, completed June 5, 2014
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ESK-11ICS03, DC Elementary Diagram – 125V Reactor Core Isolation Cooling Condensate Storage Tank MOV 2ICS*MOV124, Revision 12
ESK-11ICS04, DC Elementary Diagram, Reactor Core Isolation Cooling Condensate Storage Tank Motor Operated Valve, Revision 10
ESK-11ICS05, SH 1 of 2, DC Elementary Diagram – 125V Reactor Core Isolation Cooling Injection Shutoff Valve 2ICS*MOV126, Revision 15
ESK-11ICS06, DC Elementary Diagram – 125V Reactor Core Isolation Cooling Suction Valve from Condensate Tank MOV 2ICS*MOV129, Revision 10
12177-ESK-11ICS07, DC Elem Diag 125V RCIC Turbine Throttle MOV, Nine Mile Point Nuclear Station – Unit 2, Revision 8
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 ESK-11ICS13, Sh 1 of 3, DC Elementary Diagram – 125V Reactor Core Isolation Cooling
 Vacuum Breaker MOV 2ICS*MOV164, Revision 12
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 EE-1CP, 125 Volt One Line Diagram 2DMS*MCCA1 and 2DMS*MMMB1 Auxiliary Building,
 Revision 15
 9B.6-1, Safe Shutdown Evaluation Flow Diagram, Revision 4
 C-19518-C, Lighting Plan Turbine Building Sh4, Revision 27
 C-19518-C, Lighting Plan Turbine Building Sh006, Revision 6
 C-19514-C, Lighting Plan Turbine Building Sh2, Revision 20
 C-19516-C, Lighting Plan Turbine Building Sh2, Revision 20
 N1-EOP-2, RPV Control, Revision 01600
 C-19574-C, Communication & Area Monitoring Plan Turbine Bldg. Col. Row A-C Sh2,
 Revision 3
 C23088-C, Interconnection Diagram Aux Control Cabinet I&C Bus 130 Sh2, Revision 19
 C23088-C, Interconnection Diagram Aux Control Cabinet 1S54 I&C Bus 130 Sh1, Revision 24
 C19957-C, Circuit Assignments Reactor Protection System Bus 11 & 12 Sh2, Revision 27
 C-19950-C, One Line Diagram Plant Control & Instrumentation Power Distribution Sh1,
 Revision 31
 C-19409-C, AC Station Power Distribution One Line Diagram Sh1B, Revision 18
 0001.743-001-003, One Line Diagram High Pressure Core Spray System, Revision 2
 0007.510-980-770, Wiring Diagram Remote Shutdown Control Panel 2CES*PNL405,
 Revision 1
 12177-EE-3MA-6, Wiring Diagram Remote Shutdown Panel 2CES*PNL405, Revision 6
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 12177-EE-3ME-4, Wiring Diagram Remote Shutdown Panel Details 2CES*PNL405, Revision 4
 EE-001AU, 600V One Line Diagram 2EHS*MCC103 Bus C Control Room Building, Revision 14
 EE-003CP, External Connection Diagram PGCC Termination Cabinet 2CEC*PNL704,
 Revision 8
 EE-003CU, External Connection Diagram PGCC Termination Cabinet 2CEC*PNL705,
 Revision 12
 EE-003MD, Wiring Diagram Remote Shutdown Panel 2CES*PNL405, Revision 7
 EE-009ME, 600V Wiring Diagram 2EHS*MCC103 Bus C Control Room Building, Revision 6
 EE-009NK, 600V Wiring Diagram 2EHS*MCC303 Bus D Control Room Building, Revision 6
 EE-3MG, Wiring Diagram Remote Shutdown Panel 2CES*PNL405, Revision 4
 EE-9NR, 600V Wiring Diagram 2EHS*MCC201 Control Room Bldg., Revision 10
 EE-M01A, Plant Master One Line Diagram Normal Power Distribution, Revision 21
 EE-M01B, Plant Master One Line Diagram Emergency Power Distribution, Revision 8
 EE-M01E, Plant Master One Line Diagram Emergency 600V and 120Vac, Revision 8
 EE-M01F, Plant Master One Line Diagram Emergency and Normal 125V and 24/48Vdc,
 Revision 8
 EE-M001C, Plant Master One Line Diagram Normal 600V and 120Vac, Revision 8
 EE-M001D, Plant Master One Line Diagram Normal 600V and 120Vac, Revision 19
 EE-M001G, Plant Master One Line Diagram Normal 125Vdc, Revision 8
 ESK-6CSH03, Elementary Diagram 600V MCC Circuit High Pressure Core Spray MOV's,
 Revision 13

ESK-6CSH05, Elementary Diagram 600V MCC Circuit High Pressure Core Spray Motor Operated Valve, Revision 11
 ESK-6RHS37, Elementary Diagram 600V MCC Circuit Residual Heat Removal Shutdown Cooling Injection MOV, Revision 11
 TL2RSS-003, Test Loop Diagram Reactor Vessel Level 2RSS*LT101, Revision 1
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 B-40142-C, Sh. 5, Fire Zones Reactor Building – Fl. El. 237'-0" Turbine Building – Fl. El. 250'-0", Revision 1
 B-40144-C, Sh. 5, Fire Zones Reactor Building – Fl. El. 281'-0" Turbine Building – Fl. El. 277'-0", Revision 1
 C-18015-C, Reactor Vessel Instrumentation P&I Diagram, Revision 42
 C-19409-C, Sh. 3, One Line Diagram 4160 Volt Emergency System Power Boards 102 & 103, Revision 28
 C-19410-C, Sh. 1, Elementary Wiring Diagram 4.16 KV Emergency Power Boards & Diesel Generators, Revision 31
 C-19410-C, Sh. 11, Elementary Wiring Diagram 4.16 KV Emergency Power Boards & Diesel Generator, Revision 13
 C-19410-C, Sh. 2, Elementary Wiring Diagram 4.16 KV Emergency Power Boards & Diesel Generator, Revision 21
 C-19410-C, Sh. 3, Elementary Wiring Diagram 4.16 KV Emergency Power Boards & Diesel Generator, Revision 31
 C-19410-C, Sh. 5, Elementary Wiring Diagram 4.16 KV Emergency Power Boards & Diesel Generator, Revision 33
 C-19410-C, Sh. 8, Elementary Wiring Diagram 4.16KV Emergency Power Boards & Diesel Generators (#102 & #103 Control Circuits), Revision 19
 C-19410-C, Sh. 9, Elementary Wiring Diagram 4.16 KV Emergency Power Boards & Diesel Generator, Revision 9
 C-19442-C, Sh. 1, Cable Tray & Insert Location Below El. 261'-0" Plan, Revision 23
 C-19442-C, Sh. 2, Cable Tray & Insert Location Below El. 261'-0" Plan, Revision 40
 C-19839-C, Sh. 19A, One Line Diagram 125 VDC Control Bus, Revision 9
 C-19839-C, Sh. 3, One Line Diagram 125 VDC Control Bus (Battery Board #11), Revision 23
 C-19859-C, Sh. 18A, Elementary Wiring Diagram Reactor Protection System Ch. 12 Auto Depressurization – Core Spray, Revision 16
 C-19859-C, Sh. 24, Elementary Wiring Diagram Reactor Protection System ERV Valve #111, Revision 10
 C-19950-C, Sh. 1, One Line Diagram Plant Control And Instrumentation Power, Revision 31
 C-19950-C, Sh. 2, One Line Diagram Plant Control And Instrumentation, Revision 21
 C-22005-C, Sh. 8, Interconnection Wiring Diagram Instrumentation System, Revision 14
 C-22247-C, Connection Diagram Control Board Panel 4A, Revision 22
 C-22248-C, Sh. 1, Connection Diagram Control Board Panel 4B, Revision 22
 C-22269-C, Sh. 6, Interconnection Diagram 4160 Volt Power Board 101, Revision 9
 C-22270-C, Sh. 12, Connection Diagram 4160 Volt Powerboard 101, Revision 6
 C-22276-C, Sh. 1, 4160V Power Board 102 Interconnection Diagram, Revision 21
 C-22276-C, Sh. 3, 4160V Power Board 102 Interconnection Diagram, Revision 13
 C-22277-C, Sh. 1, 4160 Volt Power Board 102 Connection Diagram Unit 2-1, Diesel Gen. 102, Revision 10

C-22277-C, Sh. 2, 4160V Power Board 102 Connection Diagram Units 2-2, Revision 25
 C-22277-C, Sh. 3, Connection Diagram 4160 Volt Power Board 102, Revision 10
 C-22277-C, Sh. 4, 4160V Power Board 102 Connection Diagram Unit 2-9, Aux. FDR. 16B,
 Revision 6
 C-22277-C, Sh. 5, 4160V Power Board 102 Connection Diagram Units 2-2, Revision 25
 C-22336-C, Sh. 2, 125 VDC Battery Board 11 Interconnection, Revision 23
 C-22337-C, Sh. 1, 125 VDC Battery Board #12 Interconnection Diagram, Revision 29
 C-22383-C, Sh. 1, Connection Diagram Control Board Panel L, Revision 44
 C-22385-C, Sh. 18A, Interconnection Diagram Control Board Panel 1M12 (11/2), Revision 12
 C-22389-C, Interconnection Diagram Diesel Relay Panel (1S3), Revision 9
 C-22445-C, Sh. 1, Interconnection Wiring Diagram Diesel – Generator #102, Revision 28
 C-22447-C, Sh. 1, Connection Diagram Diesel Generator #102 Diesel Control Cabinet,
 Revision 24
 C-22448-C, Sh. 1, Connection Diagram Diesel Generator #102 Diesel Engine Panel,
 Revision 32
 C-230911-C, Sh. 3, Interconnection Diagram Auxiliary Control Cabinet 1S59, Revision 22
 C-23093-C, Sh. 1, Interconnection Diagram Auxiliary Control Cabinet 1S60, Revision 34
 C-23100-C, Connection Diagram Auxiliary Control Cabinet 1S73 (Core Spray), Revision 12
 C-23101-C, Sh. 1, Interconnection Diagram Auxiliary Control Cabinet 1S73 (core Spray),
 Revision 22
 C-34812-C, Sh. 1, Elementary Wiring Diagram Remote Reactor Shutdown System, Revision 7
 C-35723-C, Sh. 1, Interconnection Diagram Shutdown Supervisory Cont. Cab. #1, Revision 21
 F-45114-C, Sh. 5, One Line Diagram Reactor Protection System Bus 11, Revision 15

Piping and Instrumentation Diagrams

PID-11B, P&ID Service Water System, Revision 20
 PID-11C-16, P&ID Service Water System, Revision 16
 PID-11G-16, P&ID Service Water System, Revision 16
 PID-11H, P&ID Service Water System, Revision 35
 PID-11L, P&ID Service Water System, Revision 25
 PID-11N-9, P&ID Service Water System, Revision 9
 PID-1C-6, P&ID Main Steam, Revision 6
 PID-1F-19, P&ID Main Steam, Revision 19
 PID-28A-18, P&ID Nuclear Boiler and Process Instrumentation, Revision 18
 PID-28B-8, P&ID Nuclear Boiler and Process Instrumentation, Revision 8
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 PID-28C-11, P&ID Nuclear Boiler and Process Instrumentation, Revision 11
 PID-31-1-SH1, P&ID Residual Heat Removal Fundamental, Revision 2
 PID-31A, P&ID Residual Heat Removal System, Revision 22
 PID-31A, P&ID Residual Heat Removal, Revision 22
 PID-31B, P&ID Residual Heat Removal System, Revision 21
 PID-31C, P&ID Residual Heat Removal, Revision 15
 PID-31D, P&ID Residual Heat Removal, Revision 21
 PID-31E, P&ID Residual Heat Removal, Revision 21
 PID-31F, P&ID Residual Heat Removal, Revision 16
 PID-31G, P&ID Residual Heat Removal, Revision 15
 PID-33A, P&ID High Pressure Core Spray System, Revision 18
 PID-33B, P&ID High Pressure Core Spray System, Revision 15

Vendor Manuals

Exelon Corporation Nine Mile Point Nuclear Plant (NMP) VHF Radio System Coverage Report,
Revision 0

Fire Brigade Training

N-NM-OPS-S107-FIREMC06, Communications, Revision 8

Operator Safe Shutdown Training

2100-PLTSOJ003, Perform Lower Control Building Operator Actions, Revision 0
2100-SOP078P01, Upper Turbine Actions, Revision 0
2100-PLTSOJ004, Perform RCIC Reactor Operator Actions, Revision 0

Hot Work and Ignition Source Permits

HWP 44146	HWP 44153	HWP 43149	HWP 43156
HWP 43158	HWP 42733	HWP 43765	HWP 42741
HWP 42745	HWP 43766		

Miscellaneous Documents

NMP Technical Procedure S-PM-004, Operations Equipment Inventories and Checklists,
5/26/15:

- Quarterly Inspection/Inventory of Fire Brigade Turnout Gear, 5/26/15
- Quarterly Inspection/Inventory of Fire Brigade Turnout Gear, 5/18/15
- Quarterly Inspection/Inventory of Fire Brigade Turnout Gear, 5/19/15
- Quarterly Inspection/Inventory of Fire Brigade Turnout Gear, 5/23/15
- Quarterly Inspection/Inventory of Fire Brigade Turnout Gear, 5/26/15
- Annual Inventory, Fire Cabinet: U2 AP Hall, 261' East, 5/31/15
- Electrical Cable and Conduit Routing Information – Trak 2000

Condition Reports

2524682*	2525174*	2525704*	2466129
2513144*	2512961*	2512975*	2513358*
2525704*	2524716*	2524707*	2518341*
2495859	02448634	02513144*	02524622
2479973	2498955	2495903	02512975*
02520369*	02524804*	02525314*	
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CA-2013-004454	CA-2013-004455	CR-2014-007150	

* NRC identified during this inspection.

Work Orders

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C92133112	C92524450	C92639579	C90936011
C90965051	C91052917	C91185455	C91987896
C91987949	C91989685	C91989752	C91989827
C92014981	C92428611	C92003303	C92122688
C92134134	C92134134	C92003303	C91475485
C90650261	CO50925100	C93019957	C91820869
C92671489	14-000203-4	14-001031-4	14-000172-1
14-000203	15-000106	15-000477	14-001031-4
15-000172-1	14-000947-2	14-000953-3	

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AC	Alternating Current
ADS	Automatic Depressurization System
CFR	Code of Federal Regulations
ADS	Automatic Depressurization System
DRS	Division of Reactor Safety
FA	Fire Area
FHA	Fire Hazards Analysis
FPP	Fire Protection Program
FRE	Fire Risk Evaluation
FZ	Fire Zone
HPCS	High Pressure Core Spray
IP	Inspection Procedure
IPE	Individual Plant Examination
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
kV	kilo-Volt
MCC	Motor Control Center
MOV	Motor Operated Valve
NSCA	Nuclear Safety Capability Assessment
NFPA	National Fire Protection Association
NMPNS	Nine Mile Point Nuclear Station
NRC	Nuclear Regulatory commission
P&ID	Piping and Instrumentation Drawing
PAR	Publicly Available Records
PRA	Probabilistic Risk Assessment
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RHS	Residual Heat Removal System
SCBA	Self-Contained Breathing Apparatus
SER	Safety Evaluation Report
SSD	Safe-shutdown
V	Volts
Vac	Voltage Alternating Current
Vdc	Voltage Direct Current