



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

February 13, 2019

Mr. Bryan C. Hanson  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer, Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

**SUBJECT: NINE MILE POINT NUCLEAR STATION – INTEGRATED INSPECTION  
REPORT 05000220/2018004 AND 05000410/2018004**

Dear Mr. Hanson:

On December 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Nine Mile Point Nuclear Station (NMPNS), Units 1 and 2. On January 23, 2019, the NRC inspectors discussed the results of this inspection with Mr. Peter Orphanos, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at NMPNS. In addition, if you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I, and the NRC Resident Inspector at NMPNS.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

**/RA/**

Erin Carfang, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

Docket Numbers: 50-220 and 50-410  
License Numbers: DPR-63 and NPF-69

Enclosure:  
Inspection Report 05000220/2018004 and  
05000410/2018004

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SUBJECT: NINE MILE POINT NUCLEAR STATION – INTEGRATED INSPECTION  
REPORT 05000220/2018004 AND 05000410/2018004 DATED  
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**U.S. NUCLEAR REGULATORY COMMISSION**  
**Inspection Report**

Docket Numbers: 05000220 and 05000410

License Numbers: DPR-63 and NPF-69

Report Numbers: 05000220/2018004 and 05000410/2018004

Enterprise Identifier: I-2018-004-0066

Licensee: Exelon Generation Company, LLC (Exelon)

Facility: Nine Mile Point Nuclear Station, LLC (NMPNS)  
Units 1 and 2

Location: Oswego, New York

Inspection Dates: October 1, 2018 to December 31, 2018

Inspectors: E. Miller, Senior Resident Inspector  
J. Dolecki, Resident Inspector  
B. Sienel, Resident Inspector  
B. Fuller, Senior Operations Engineer  
T. Hedigan, Operations Engineer  
J. Kulp, Senior Reactor Inspector  
M. Orr, Reactor Inspector  
A. Patel, Senior Reactor Inspector  
M. Patel, Operations Engineer  
R. Rolph, Health Physicist  
A. Rosebrook, Senior Project Engineer  
D. Werkheiser, Senior Reactor Inspector

Approved By: E. Carfang, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring Exelon's performance at NMPNS Units 1 and 2 by conducting the baseline inspections described in this report in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC-identified and self-revealed findings, violations, and additional items are summarized in the table below.

### List of Findings and Violations

Inadequate Risk Mitigation Actions resulted in Loss of Decay Heat Removal and Partial Loss of Offsite Power			
Cornerstone	Significance	Cross-Cutting Aspect	Inspection Results Section
Mitigating Systems	Green NCV 05000410/2018004-02 Open/Closed	H.5 – Human Performance, Work Management	71152 Annual Follow-up of Selected Issues
A self-revealed Green finding and associated non-cited violation (NCV) of Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," was identified when Exelon did not assess and manage the increase in risk for outage maintenance activities. Specifically, on May 10, 2018, Exelon did not adequately provide risk mitigation actions for electrical protection relays in the Unit 2 switchyard that resulted in a partial loss of an offsite power and a loss of decay heat removal.			

### Additional Tracking Items

Type	Issue number	Title	Inspection Results Section	Status
URI	05000220/2018004-01	Potential Failure to Classify a Scram with Complications	71151	Open
LER	05000410/2018-001-00	Auto Start of Division II Emergency Diesel Generator Due to Loss of Line 6	71153	Closed

## PLANT STATUS

Unit 1 began the inspection period at rated thermal power. On December 8, 2018, operators reduced reactor power to 70 percent to perform high pressure coolant injection surveillance testing, turbine valve surveillance testing, and a control rod pattern adjustment. Operators restored reactor power to rated thermal power on December 9, 2018, and remained at or near rated thermal power for the remainder of the inspection period.

Unit 2 began the inspection period at rated thermal power. On December 21, 2018, operators reduced reactor power to 70 percent to perform planned control rod channel interference testing and a control rod pattern adjustment. Operators restored reactor power to rated thermal power on December 22, 2018, and remained at or near rated thermal power for the remainder of the inspection period.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515, Appendix D, "Plant Status," and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess Exelon's performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## REACTOR SAFETY

### 71111.01 - Adverse Weather Protection

#### Seasonal Extreme Weather (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures on October 18, 2018.

### 71111.04 - Equipment Alignment

#### Partial Walkdown (4 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 1 emergency diesel generator 102 during emergency diesel generator 103 planned maintenance on October 9, 2018
- (2) Unit 1 125 volts direct current battery 12 during emergency diesel generator 102 planned maintenance on October 23, 2018
- (3) Unit 2 Division II emergency diesel generator during elevated risk for Division III emergency diesel generator planned maintenance on November 27, 2018

- (4) Unit 2 Division I emergency diesel generator during elevated risk for Division III emergency diesel generator engine replacement on December 14, 2018

#### Complete Walkdown (2 Samples)

The inspectors evaluated system configurations during complete walkdowns of the following systems:

- (1) Unit 1 core spray 111 on December 3, 2018
- (2) Unit 1 12 high pressure coolant injection on December 18, 2018

### 71111.05A/Q - Fire Protection Annual/Quarterly

#### Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Unit 1 turbine building 261' battery board 11, fire area 5, on October 2, 2018
- (2) Unit 1 turbine building 261' battery board 12, fire area 5, on October 2, 2018
- (3) Unit 2 reactor building 196' north, fire area 34, on October 3, 2018
- (4) Unit 2 reactor building 215' north, fire area 34, on October 3, 2018
- (5) Unit 1 reactor building 198' northeast, fire area 1, on October 3, 2018

### 71111.06 - Flood Protection Measures

#### Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections at Unit 2 uninterruptible power supplies 2C and 2D on November 29, 2018.

### 71111.07 - Heat Sink Performance

#### Heat Sink (1 Sample)

The inspectors evaluated Exelon's monitoring and maintenance of the Unit 2 high pressure core spray pump room unit cooler 2HVR\*UC403A performance.

### 71111.11– Licensed Operator Regualification Program and Licensed Operator Performance

#### Operator Regualification (Quarterly) (2 Samples)

- (1) The inspectors observed and evaluated Unit 1 operator training that involved a transition to Nuclear Energy Institute 99-01, "Methodology for Development of Emergency Action Levels," Revision 6 on October 26, 2018
- (2) The inspectors observed and evaluated Unit 2 operator training that involved a transition to Nuclear Energy Institute 99-01, "Methodology for Development of Emergency Action Levels," Revision 6 on October 26, 2018

Operator Performance (Quarterly) (2 Samples)

- (1) The inspectors observed Unit 1 operations personnel during planned reactor power manipulations down to approximately 70 percent for a control rod pattern adjustment and high pressure coolant injection surveillance testing on December 8 and 9, 2018
- (2) The inspectors observed Unit 2 operations personnel during power restoration to 100 percent following a B train 6<sup>th</sup> point heater normal level control failure on October 29, 2018 and during reactor core isolation cooling quarterly surveillance testing on November 8, 2018

Operator Regualification Exam Results (Annual) (2 Samples)

- (1) The inspectors reviewed and evaluated regualification examination results for Unit 1 (written and operating test) on November 20, 2018.
- (2) The inspectors reviewed and evaluated regualification examination results for Unit 2 (operating test only) on November 20, 2018.

Operator Regualification Program and Operator Performance (Biennial) (1 Sample)

The inspectors reviewed and evaluated operator performance, evaluator performance, and simulator performance during the Unit 1 regualification examinations completed on November 1, 2018.

71111.12 - Maintenance Effectiveness (3 Samples)

Routine Maintenance Effectiveness (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Unit 1 emergency diesel generator system
- (2) Unit 2 emergency diesel generator system

Quality Control (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with the commercial grade dedication of ball valves subsequently installed in the Unit 1 reactor building closed loop cooling system piping supporting the 11 instrument air compressor on August 21, 2018 and 12 instrument air compressors on March 13, 2018.

71111.13 - Maintenance Risk Assessments and Emergent Work Control (3 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Unit 1 emergency diesel generator 103 planned maintenance on October 9, 2018
- (2) Elevated risk for Unit 2 Division II emergency diesel generator during planned maintenance on October 30, 2018
- (3) Elevated risk for Unit 2 Division III emergency diesel generator during engine replacement on December 10, 2018

#### 71111.15 - Operability Determinations and Functionality Assessments (2 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 1 emergency diesel generator 103 fuel oil storage tank level due to refueling of an unintended fuel oil storage tank on October 9, 2018
- (2) Unit 2 Division III emergency diesel generator hot restart surveillance test results on December 17, 2018

#### 71111.18 - Plant Modifications (3 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Permanent Modification: Engineering Change Package 15-000005, Unit 1 Fire Panel Replacement for Local Fire Control Panel PNL-LFP5
- (2) Temporary Modification: Engineering Change Package 18-000388, New Computer Points and Alarm for Unit 2 Recirculation Pump Subcooling Differential Temperature
- (3) Permanent Modification: Engineering Change Package 18-000699, Replace 2EGS\*EG2 Division III High Pressure Core Spray Diesel Generator

#### 71111.19 - Post Maintenance Testing (6 Samples)

The inspectors evaluated post maintenance testing for the following maintenance/repair activities:

- (1) Unit 1 emergency diesel generator 103 following preventive maintenance on October 10, 2018
- (2) Unit 2 Division II emergency diesel generator following preventive maintenance on October 30, 2018
- (3) Unit 2 high pressure core spray pump room unit cooler 2HVR\*UC403A following cleaning due to zebra mussel fouling on November 13, 2018
- (4) Unit 2 Division III emergency diesel generator following preventive maintenance on November 27, 2018
- (5) Unit 2 Division III emergency diesel generator slow start testing following engine replacement on December 15, 2018
- (6) Unit 2 Division III emergency diesel generator loss of offsite power and loss of coolant accident testing following engine replacement on December 17, 2018

#### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

##### Routine (2 samples)

- (1) Unit 2 Division I emergency diesel generator during review of Technical Specification 3.5.1 emergency license amendment submittal on December 6, 2018
- (2) Unit 2 Division II emergency diesel generator during review of Technical Specification 3.5.1 emergency license amendment submittal on December 6, 2018

Inservice (2 Samples)

- (1) Unit 2 reactor core isolation cooling system during review of Technical Specification 3.5.1 emergency license amendment submittal on December 6, 2018
- (2) Unit 2 low pressure core spray system during review of Technical Specification 3.5.1 emergency license amendment submittal on December 6, 2018

71114.04 - Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors verified that the changes made to the emergency plan were done in accordance with 10 CFR 50.54(q)(3), and any change made to the Emergency Action Levels, Emergency Plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the Plan. This evaluation does not constitute NRC approval.

**RADIATION SAFETY**71124.01 - Radiological Hazard Assessment and Exposure Controls (3 Samples)Contamination and Radioactive Material Control (1 Sample)

The inspectors observed personnel and material exiting the radiologically controlled areas from the control points of Unit 1 and Unit 2. The inspectors observed personnel monitor alarm responses. The inspectors ensured Nationally Tracked Sources were accounted for and reported as required.

Instructions to Workers (1 Sample)

The inspectors evaluated instructions provided to workers.

Radiation Worker Performance and Radiation Protection Technician Proficiency (1 Sample)

The inspectors evaluated radiation worker and radiation protection technician radiological performance.

**OTHER ACTIVITIES – BASELINE**71151 - Performance Indicator Verification (7 Samples)

The inspectors verified Exelon's performance indicator submittals listed below, for the period from January 1, 2017, through December 31, 2017: (6 Samples)

- (1) IE01, Unit 1, Unplanned Scrams
- (2) IE01, Unit 2, Unplanned Scrams
- (3) IE03, Unit 1, Unplanned Power Change
- (4) IE03, Unit 2, Unplanned Power Change
- (5) IE04, Unit 1, Unplanned Scrams With Complications
- (6) IE04, Unit 2, Unplanned Scrams With Complications

The inspectors verified Exelon's performance indicator submittals listed below, for the period from October 1, 2017, through September 30, 2018: (1 Sample)

(7) OR01, Occupational Exposure Control Effectiveness

#### 71152 - Problem Identification and Resolution

##### Semiannual Trend Review (1 Sample)

The inspectors reviewed Exelon's corrective action program for trends that might be indicative of a more significant safety issue.

##### Annual Follow-up of Selected Issues (5 Samples)

The inspectors reviewed Exelon's implementation of its corrective action program related to the following issues:

- (1) Issue Report 04137255, Unit 2 loss of condensate flow during plant start up on May 12, 2018
- (2) Issue Report 04082686, Unit 2 implementation of Technical Specification Limiting Condition for Operation 3.0.9
- (3) Issue Report 04155651, Unit 2 snubber functional test failures and maintenance planning
- (4) Issue Report 04136339, Unit 2 partial loss of offsite power and loss of shutdown cooling on May 10, 2018
- (5) Issue Report 04163117, Unit 1 and Unit 2 degraded gaseous radiation monitoring equipment

#### 71153 - Follow-up of Events and Notices of Enforcement Discretion

##### Events (3 Samples)

The inspectors evaluated response to the following events:

- (1) Unit 2 loss of feedwater heating due to the 'B' 5<sup>th</sup> point feedwater heater normal level control valve failure on November 21, 2018
- (2) Unit 2 Alert Emergency Action Level event declaration due to failure of the Division III emergency diesel generator on December 2, 2018
- (3) Unit 2 post event follow-up for failure of the Division III emergency diesel generator on December 3, 2018

##### Licensee Event Reports (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05000410/2018-001-00, Auto Start of Division II Emergency Diesel Generator Due to Loss of Line 6 (Adams Accession No. ML18192B988). The circumstances surrounding this LER are documented in Inspection Results Section 71152, Problem Identification and Resolution.

## INSPECTION RESULTS

Inadequate Risk Mitigation Actions Resulted in Loss of Decay Heat Removal and Partial Loss of Offsite Power			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000410/2018004-02 Open/Closed	H.5 – Human Performance, Work Management	71152 Annual Follow-up of Selected Issues
<p>A self-revealed Green finding and associated non-cited violation (NCV) of Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," was identified when Exelon did not assess and manage the increase in risk for outage maintenance activities. Specifically, on May 10, 2018, Exelon did not adequately provide risk mitigation actions for electrical protection relays in the Unit 2 switchyard that resulted in a partial loss of an offsite power and a loss of decay heat removal.</p>			
<p><u>Description:</u> During the Unit 2 refueling and maintenance outage, Exelon staff performed planned testing of offsite protective relays in the station switchyard. The scope of the testing involved bypassing the protective relays to allow functional testing of the Unit 2 output breakers, R230 and R925. Each protective relay contains an engineered connecting plug to allow a technician to bypass it for testing. On May 10, 2018, at 2:48 a.m., while an Exelon technician attempted to remove the engineered connecting plug for a protective relay associated with R925, a partial actuation of the relay occurred. The actuation of the protective relay caused the 'B' 345 KV bus to trip. As a result, power to 115 KV offsite power source Line 6 (Division II) was lost.</p> <p>At the time of the loss of Line 6, Unit 2 was in Mode 4, Cold Shutdown, with the reactor vessel head on and fully tensioned, and reactor vessel water level at the flange. Line 6 was supplying power to the Division II 4KV emergency switchgear, and decay heat removal for the reactor coolant system was being performed by Division II residual heat removal pump and heat exchanger. Concurrent with the loss of Line 6, power was immediately lost to the Division II 4KV emergency switchgear and all equipment being supplied power by it. The Division II emergency diesel generator started immediately upon the loss of Line 6. Operators took immediate action and restored the Division II decay heat removal system within 6 minutes after the loss of power occurred.</p> <p>Exelon performed a root cause investigation and determined the risk mitigation strategy of bypassing protective relays solely by removing the engineered connecting plug during the performance of protective relay testing was not recognized as a failure mechanism that could cause an actuation. The inspectors performed a review of the root cause investigation and identified that Line 6 was considered to be protected in accordance with OU-NM-103-101, "Shutdown Safety Management Program," Revision 00200, at the time of the protective relay testing, however no risk mitigation barrier was in place at the location of the work being performed. 10 CFR 50.65(a)(4) states, in part: "...the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities." OP-AA-108-117, "Protected Equipment Program," Revision 5, provides guidance for protecting equipment and developing risk mitigation actions in order to minimize plant risk and to meet 10 CFR</p>			

50.65(a)(4). OP-AA-108-117, Section 4.2.7 provides the following guidance for determining when to protect equipment during an outage:

“EXTEND the protected equipment train concept to work within the station switchyard and associated relays, switchgear and transformers. This includes activities by station, supplemental, and transmission personnel.”

Although risk was reviewed for the testing of the protective relay, it was understood by Exelon staff that the risk mitigation strategy of removing the engineered connecting plug was suitable to prevent a relay actuation. The inspectors determined that had the relay in the switchyard been protected in accordance with OP-AA-108-117 and OU-NM-103-101 for Line 6 using a sign or barrier, then an additional review by Exelon would have been required before proceeding with the work, allowing an additional opportunity to prevent a loss of decay heat removal and the loss of an offsite power source.

OP-AA-108-117, Section 4.4.3 states in part, “if work on protected equipment is required, then comply with the following:

“-work groups are required to obtain Shift Manager approval every shift for work on protected equipment...  
-During outage conditions, the work group will receive outage control center approval from the Shift Outage Manager or Shift Outage Director prior to obtaining Shift Manager or designee authorization.”

Additionally, the inspectors identified three non-compliances with site shutdown safety management and integrated risk management procedures which contributed to the partial loss of offsite power and loss of decay heat removal. See the 71152 Observation below for more details about these non-compliances.

Exelon assessed the need to add risk mitigation barriers to the applicable relays and update the protected equipment implementing procedure. Exelon attributed the need for additional barriers to the potential for mechanical induced vibration of relays that could cause a loss of offsite power. Although Exelon did not identify the failure to meet OP-AA-108-117, the corrective action to establish the barrier for the applicable relays addresses the concern identified by the inspectors.

Corrective Action: Exelon entered this issue into the corrective action program and modified the scheduling plant impact when protective relay testing will occur. Maintenance and work scheduling programs have also been updated to ensure appropriate codes are applied to ensure the risk of losing an offsite power source and decay heat removal is recognized. The applicable relays that could cause a loss of offsite power have also been added to the Unit 2 protected equipment implementing procedure.

Corrective Action Reference: IR 04136339

#### Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to assess and manage the increase in risk for outage maintenance activities was contrary to 10 CFR 50.65(a)(4), “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” and was a performance deficiency.

**Screening:** This finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Exelon did not provide an adequate risk mitigation barrier to ensure proper reviews were conducted before allowing work on a system that could cause the loss of a key safety function, decay heat removal. The inspectors reviewed IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined this issue is also similar to Example 7.g, because the failure to manage risk as required by 10 CFR 50.65(a)(4) resulted in the loss of a key safety function, decay heat removal.

**Significance:** The inspectors assessed the significance of the finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," dated May 9, 2014. The plant was in operating state one (POS 1), which is a condition with the reactor vessel head on and tensioned and shutdown cooling in service. The event occurred late in the outage which resulted in a lower decay heat loading. The inspectors reviewed the guidance in IMC 0609, Appendix G, Attachment 3, for boiling water reactors (BWRs) and determined that for this condition, the simplified models provided did not adequately represent Unit 2, which is a BWR type 5 with a Mark 2 containment. A shutdown SPAR model has not been developed for Unit 2, however a shutdown SPAR model for Columbia Generating Station, also a BWR type 5 with a Mark 2 containment, was judged to be a suitable substitute. The condition was modeled as a loss of shutdown cooling with a failure of offsite power to Division II AC buses. The change in core damage frequency was approximately  $8E-7$ , Green. The dominant sequence included a loss of shutdown cooling with a failure to restore before a high pressure isolation occurred, failure to depressurize, failure to establish alternate decay heat removal paths, failure to vent containment and failure to restore long term shutdown cooling. The potential for a large early release was evaluated in accordance with IMC 0609, Appendix H and screened out as Green in Section 5.2, Approach for Assessing Type A Findings During Shutdown, step 2.2 since the finding did not occur while the plant was in the early phase of POS 1, and the finding occurred after the first eight days of the outage.

**Cross-Cutting Aspect:** The inspectors determined that the finding had a cross-cutting aspect of Work Management within the cross-cutting area of Human Performance because Exelon did not adequately plan, control, and execute the work associated with a protective relay that caused a partial loss of offsite power and a loss of decay heat removal. Specifically, Exelon did not ensure adequate risk mitigation barriers were in place to ensure proper reviews were conducted prior to work execution, resulting in a relay actuation during testing, a partial loss of offsite power and loss of decay heat removal. [H.5]

**Enforcement:**

**Violation:** Title 10 CFR 50.65(a)(4) requires, in part, that before performing maintenance activities, the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. Exelon procedure OP-AA-108-117, "Protected Equipment Program," implements this requirement. OP-AA-108-117, Section 4.2.7 provides the following guidance for determining when to protect equipment during an outage:

"EXTEND the protected equipment train concept to work within the station switchyard and associated relays, switchgear and transformers. This includes activities by station, supplemental, and transmission personnel."

Contrary to the above, on May 10, 2018, Exelon did not provide an adequate risk mitigation barrier in accordance with OP-AA-108-117. This resulted in a partial loss of offsite power and a loss of decay heat removal when workers attempted to remove an engineered connecting plug of a switchyard relay in preparation for testing. The inspectors determined that had the relay in the switchyard been protected in accordance with OP-AA-108-117 and OU-NM-103-101 for Line 6 using a sign or barrier, an additional review by Exelon would have been required before proceeding with the work, allowing an additional opportunity to prevent a loss of decay heat removal and an offsite power source.

Disposition: Exelon entered this issue into the corrective action program as IR 04136339 and this violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

The disposition of this NCV closes LER 05000410/2018-001-00.

Observations	71152 Annual Follow-up of Selected Issues
<p><u>Unit 2 Partial Loss of Offsite Power and Loss of Shutdown Cooling on May 10, 2018</u></p> <p>On May 10, 2018, Unit 2 experienced a partial loss of offsite power and loss of shutdown cooling during a planned refueling and maintenance outage. Exelon staff were preparing to conduct testing of protective relays in the switchyard associated with Unit 2 main generator output breakers. When Exelon staff attempted to remove an engineered connecting plug in the bottom of the relay as a risk mitigation action to prevent spurious trips, a partial actuation occurred due to vibration. A loss of offsite power to Line 6 resulted in the loss of safety-related power to all Division 2 systems and components. At the time, the Division 2 residual heat removal system was providing decay heat removal. Upon loss of power to the Division 2 safety electrical bus, the Division 2 emergency diesel generator immediately started and restored power to the bus. Operators restored decay heat removal 6 minutes following the event.</p> <p>The inspectors performed a review of Exelon's root cause evaluation, reviewed associated procedures and operator logs, conducted interviews with Exelon staff, and performed plant walkdowns of related equipment. The inspectors focused on cause identification, extent of cause, and extent of condition to determine if Exelon staff adequately addressed the event and developed appropriate corrective actions to prevent recurrence.</p> <p>Exelon identified the root cause to be the risk mitigation strategy. Specifically, bypassing protective relays solely by removing the engineered connecting plug during the performance of testing was not recognized as a failure mechanism that could cause an actuation. Exelon also identified a contributing cause associated with the type of relay having engineered connecting plugs that are difficult to remove from their housing; and the difficulty removing it, increasing the probability of that type of relay actuating while being bypassed. Corrective actions established by Exelon include modifying the plant impact section of the protective relay testing procedure, adding work scheduling codes to identify the trip risk during testing of the relays, adding the affected switchyard relays to the risk mitigation protected equipment scheme, evaluating the need to replace the switchyard relays with a different type, and training on risk recognition to Exelon staff.</p>	

The inspectors determined that Exelon's root cause assessment and corrective actions appear to be adequate. In addition, the inspectors identified one Green NCV which is documented in this inspection report. As mentioned in NCV 05000410/2018004-01, the inspectors identified several non-compliances with station shutdown safety management and integrated work management programs. Specifically:

- OU-NM-103-101, "Shutdown Safety Management Program," Revision 00200, Section 5.9.1, provides direction to update protective controls for protected systems in the Shift Outage Safety Assessment. Contrary to this, inspectors identified during interviews that although Line 5 was protected, the Shift Outage Safety Assessment was not updated to appropriately reflect plant conditions. Exelon documented this issue in the corrective action program as IR 04217839.
- OU-AA-103, "Shutdown Safety Management Program," Revision 20, Section 4.10.2, states in part, to evaluate schedule changes to determine their effects on the shutdown safety plan. Specifically, in subsection 1.B it states to perform a High Risk activity review. Section 4.4.3, states in part to review work that affects equipment with a key safety function, work that could cause an undesirable equipment actuation, and switchyard work affected shutdown safety. This would have provided an additional opportunity to identify the risk of performing relay testing on equipment that could cause a loss of offsite power and loss of shutdown cooling. Exelon documented this issue in the corrective action program as IR 04217839.
- The inspectors review of the work order (C93470730) associated with testing of the breaker protection relays identified that a switchyard risk review was not completed during the work planning process. WC-AA-104, "Integrated Risk Management," Revision 25, Section 5.2.6 states, if the work is in the switchyard, evaluate the work using Attachment 5; contrary to this requirement Attachment 5 was not completed. Exelon documented this issue in the corrective action program as IR 04217671.

The above items were considered to be separate performance deficiencies, which contributed to the performance deficiency discussed in NCV 05000410/2018004-01 not being identified prior to the loss of Line 6 and shutdown cooling.

Unresolved Item (05000220/2018004-01) (Open)	Potential Failure to Classify an Unplanned Scram with Complications	71151 Performance Indicator Verification
<p><u>Description:</u> On September 6, 2017, NMPNS Unit 1 experienced a reactor scram due to low reactor water level when a feedwater flow/steam flow proportional amplifier failed. The low reactor water level caused main steam isolation valves to automatically close, the start of all core spray pumps, and an automatic initiation of the high pressure coolant injection system. In addition, operators manually placed the emergency condenser (i.e. isolation condenser) in service for reactor pressure control until the main steam isolation valves could be re-opened.</p> <p>Exelon reported this scram to the NRC as a scram in their Unplanned Scrams performance indicator. Exelon determined that this scram did not meet the criteria for an Unplanned Scram with Complications. Nuclear Energy Institute 99-02, "Regulatory Assessment Performance</p>		

Indicator Guideline,” Revision 6, establishes a series of questions to assist in determining if a scram should be classified as a Scram with Complications.

Nuclear Regulatory Commission Position:

The inspectors reviewed Nuclear Energy Institute 99-02; N1-EOP-2, “RPV [reactor pressure vessel] Control,” Revision 01600; the post transient review for the scram on September 6, 2017; and IR 04049445 and its associated root cause report, and determined that it appeared that a Scram with Complications should have been classified.

Question 6 of Nuclear Energy Institute 99-02 states:

“Following the initial transient, did stabilization of reactor pressure/level and drywell pressure meet the entry conditions for EOP’s?”

The pressure control leg of N1-EOP-2 states:

“...stabilize RPV pressure below 1080 psig using the main turbine bypass valves. Use alternate pressure control systems if needed.”

Operators did not have turbine bypass valves available for use because the main steam isolation valves were closed. Instead, operators utilized an “alternate pressure control system” listed in N1-EOP-2, the emergency condenser. Pressure was controlled using the emergency condenser for approximately 8 minutes before the main steam isolation valves were opened and reactor pressure control was re-established using the turbine bypass valves. The inspectors also reviewed Reactor Oversight Process Task Force FAQ [frequently asked questions] Log March 1, 2018 regarding the definition of “initial transient,” as it is not described in Nuclear Energy Institute 99-02.

The Frequently Asked Questions Log states:

*“Initial Transient* is intended to envelope the immediate and expected changes to BWR parameters as a result of a scram (e.g., pressure, level, etc.) because of the collapsing of voids in the core and the routine response of the main feedwater and turbine control systems. For example, at some BWRs the reflected pressure wave resulting from the rapid closure of turbine valves during a turbine trip may result in a pressure spike in the reactor vessel that causes one or more safety-relief valves (SRVs) to briefly lift. The intent is to allow a licensee to exclude the momentary operation of SRVs when answering “Was pressure control unable to be established?” The sustained or repeated operation of SRVs in response to turbine control bypass valve failures or Main Steam Isolation Valve (Group I) isolations are not a part of routine BWR scram responses and are therefore not considered to occur within the initial transient.”

Based on the inspectors’ review it appeared that Question 6 should have been answered “Yes,” because the ultimate heat sink was lost with main steam isolation valves closed following the initial transient requiring additional time for the use of the alternate pressure control system, emergency condensers, as defined in N1-EOP-2.

Exelon Generation Position:

Exelon staff also provided that part of their determination of the scram not being complicated was due to their review of Question 2 of Nuclear Energy Institute 99-02, which states:

“Was pressure control unable to be established following the initial transient? ... reactor pressure must be controlled following the initial transient without the use of Safety Relief Valves (SRVs).”

Exelon answered “No” to Question 2 because Safety Relief Valves were not required to be used. Exelon noted Question 2 provides background information regarding normal pressure control systems, and that “isolation condenser” was included. Exelon agreed that this conflicts with Question 6 and with N1-EOP-2, which lists the emergency condenser as an alternate pressure control system.

Planned Closure Action: The inspectors are opening an unresolved item (URI) to determine if a performance deficiency exists.

Licensee Actions: Exelon entered the concern into their corrective action program, and created an action to enter the question into the NRC performance indicator FAQ [frequently asked questions] process for resolution.

Corrective Action Reference: IR 04209092

NRC Tracking Number: 05000220/2018004-02

Observations	71152 Annual Follow-up of Selected Issues
<p><u>Review of Unit 2 Loss of Condensate Flow During Plant Start-up on May 12, 2018</u></p> <p>On May 12, 2018, with reactor power at approximately 5 percent, plant operators inadvertently isolated condensate flow while swapping steam jet air ejectors, causing both condensate booster pumps to trip on low suction pressure. The plant operators immediately recognized their error, promptly entered N2-SOP-6, “Feedwater Failures,” restored condensate flow, and restarted a condensate booster pump. During the transient, reactor vessel water level dropped approximately 7 inches. Exelon entered the issue into its corrective action program as IR 04137255, conducted a human performance review board and a corrective action program evaluation, and remediated the operators involved.</p> <p>The inspectors reviewed Exelon’s issue reports, corrective action program evaluation and human performance review board, interviewed personnel familiar with the event, and conducted walkdowns. Exelon determined that the apparent cause was inadequate engagement of operations leadership with a contributing cause of the quality of procedure N2-OP-9, “Condenser Air Removal,” Revision 02000. The inspectors concurred with Exelon’s apparent and contributing cause, but determined that communications were also a contributing cause. The plant operators were directed to “swap steam jet air ejectors,” which would imply using N2-OP-2 Section F 2.0, “Swapping SJAE Trains,” which explicitly directs operators to manipulate condensate valves in the proper sequence to maintain condensate</p>	

flow and is written for swapping from train B to train A. Instead, the recently qualified plant operators were provided a copy of N2-OP-2, Section E 2.0, "Placing the Steam Jet Air Ejectors in Service," which does not have specific guidance for operating condensate valves, as this section is written with the assumption that the condensate system is already lined up and in service and operators only have to verify valve position. If this had been discussed during the pre-job brief, if there had been a caution statement in N2-OP-2, Section E 2.0, or if the crew had been more experienced the error could still have been prevented. Therefore, the inspectors considered this a contributing cause. The corrective actions for the apparent cause were determined to be adequate to correct this contributing cause as well, therefore no violation of NRC requirements was identified.

This item was evaluated using IMC 0612, Appendix B, "Issue Screening," and IMC 0612, Appendix E, "Examples of Minor Issues," and determined to be of minor significance. Exelon has entered the issue into their corrective action program as IR 04137255 and documented corrective actions to be taken.

Observations	71152 Annual Follow-up of Selected Issues
<p><u>Implementation of Technical Specification Limiting Condition for Operation 3.0.9</u></p> <p>One of the causes identified for NCV 05000410/2017004-03, "Inadequate Operability Determination for Impaired Internal Flood Barrier," was a knowledge gap with respect to the application and implementation of Technical Specification Limiting Condition for Operation (LCO) 3.0.9. Exelon wrote IR 04082686 to evaluate and address this knowledge gap. The inspectors reviewed the issue report and associated corrective action program evaluation, Exelon procedures related to barrier impairment and work control, control room logs, and applicable NRC and industry guidance documents in order to assess the effectiveness of the corrective actions. Exelon revised procedure CC-NM-201-1001, "Plant Barrier Control Program Implementation," and conducted training with plant staff on LCO 3.0.9. The inspectors determined that the corrective actions were generally effective.</p> <p>However, the inspectors did identify one evolution where LCO 3.0.9 should have been applied and was not. On January 22, 2018, May 17, 2018, and May 29, 2018, floor plugs in barriers credited to support Unit 2 service water system operability were removed for replacement of service water pump motors. Since each service water cubicle contains three service water pumps, either the entire service water subsystem should have been declared inoperable and the 72-hour Technical Specification Action Statement 3.7.1.C entered or LCO 3.0.9 entered for an inoperable barrier which would allow deferral from entry into 3.7.1.C for 30 days. Instead, Exelon applied the guidance of NRC Regulatory Issue Summary (RIS) 2001-09, "Control of Hazard Barriers," and declared the supported equipment operable based upon contingencies put in place to restore the barrier and monitor weather conditions. Only the pump which was out of service for the motor replacement was declared inoperable. A single pump out of service does not require entry into Technical Specification LCO 3.7.1.</p> <p>The basis for LCO 3.0.9 states: "Barriers are doors, walls, floor plugs, curbs, hatches, mechanical devices, or other devices, not explicitly described in Technical Specifications that support the performance of the function of the systems described in the Technical Specifications." The floor plugs provide protection for the service water pumps in each cubicle against missile hazards. Therefore, Technical Specification 3.0.9 should have been entered. However, the inspectors determined the plant barrier impairments were appropriately logged</p>	

and tracked, risk management actions and contingencies were put in place, and the barriers were restored within 72 hours. Thus, no violation of Technical Specification 3.7.1 or LCO 3.0.9 occurred

This item was evaluated using IMC 0612, Appendix B, "Issue Screening," and IMC 0612, Appendix E, "Examples of Minor Issues," and determined to be of minor significance. Exelon has entered the issue into their corrective action program as IR 04082313 and documented corrective actions to be taken.

Observations	71152 Annual Follow-up of Selected Issues
<p><u>Unit 2 Snubber Functional Failures and Maintenance Planning</u></p> <p>During the NMPNS Unit 2 refueling outage in the Spring of 2018, seismically-qualified snubbers were removed and tested for functionality in accordance with applicable industry standards and Exelon procedures. Inspectors reviewed Exelon's procedures associated with snubber removal, testing, results, cause evaluations, and the associated corrective actions. Exelon tested a representative sample of randomly selected small mechanical, large mechanical, and hydraulic snubbers. Following failure of as-found testing of both a small and a large mechanical snubber in the initial sample test population, Exelon expanded both testing sample plans. At the completion of the snubber functional testing, a total of 1 out of 11 small mechanical and 6 out of 68 large mechanical snubbers failed the as-found testing. The piping associated with each failed snubber was evaluated by Exelon in the corrective action program. Exelon developed corrective actions for the failed snubbers which included replacement with pre-tested snubbers that met the functional testing acceptance criteria. In addition, each snubber that failed functional testing is scheduled to be tested during the next refueling outage.</p> <p>During review, the inspectors identified that OU-NM-103-101, "Shutdown Safety Management Program," Section 4.16.D, provides direction to evaluate activities on systems which penetrate the RPV below the Top of Active Fuel against Technical Specification 3.5.2 and to use Drain Time to determine whether an elevated risk level is reached. However, due to LCO 3.0.8 being implemented when one or more required snubbers are removed from service and unable to perform their support function(s), a Drain Time does not have to be performed, which could result in a failure to evaluate a change in risk in accordance with OU-NM-103-101. By not evaluating station risk for work activities affecting Reactor Vessel Water Level inventory control in accordance with OU-NM-103-101, Unit 2 has the potential to not meet 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The inspectors reviewed a sample of cases involving snubber removal and did not identify any cases involving a failure to adequately identify an increase in risk.</p> <p>Exelon has entered this issue into the corrective action program as IR 04207466 and 04218549. The inspectors determined Exelon's cause evaluation and corrective actions for each of the failed snubbers appeared adequate. The above item was evaluated using IMC 0612, Appendix B, "Issue Screening," and IMC 0612, Appendix E, "Examples of Minor Issues," and determined to be of minor significance.</p>	

Observations	71152 Annual Follow-up of Selected Issues
<p><u>Degraded Gaseous Radiation Monitoring Equipment</u></p> <p>The inspectors performed an in-depth review of Exelon's analysis and corrective actions associated with gaseous radiation monitoring equipment. The inspectors' review focused on the stack radiation monitoring and associated support equipment in both the Unit 1 stack and the Unit 2 stack. The inspectors reviewed condition reports, self-assessments, and held discussions with plant personnel. The inspectors assessed Exelon's problem identification threshold, cause analysis, and the prioritization and timeliness of corrective actions to determine whether Exelon was taking timely corrective actions.</p> <p>The stack radiation monitors at both Unit 1 and Unit 2 were declared non-functional numerous times over the past 2 years. Water intrusion into the Unit 1 and Unit 2 stack monitor sample lines caused the monitors to be taken out of service until the lines could be "blown down" to remove the water. On one occasion, the water froze in the line and sample flow went to zero. In accordance with the requirements of the Unit 1 and Unit 2 Off Site Dose Calculation Manual, Chemistry performed alternate sampling every shift until the monitor flow rate was restored. A review of the issue reports indicate that the low flow was handled timely and the sample flow restored. However, it was not apparent that the plant recognized the cause of the water intrusion. Several conditions were recognized, but repairs were not implemented due to industrial safety concerns and other station priorities. A bent sample line was discovered in the Unit 1 stack sample line, but could not be repaired due to industrial safety concerns until the winter weather was over. Condensation forming in the Unit 2 stack was identified in 2015 due to degraded heat trace. This condition was not addressed due to successive mild winters in 2016 and 2017 that did not impact the sample flow. In 2018 the winter weather conditions resulted in a repeat of condensation from the degraded heat trace. Exelon entered the issue into the corrective action plan under IR 04184941. In another instance, an area heater was found inoperable and a hatch left open in the Unit 2 stack monitor building in January 2018, which caused the temperature in the monitor building to drop and condensation to accumulate in the sample lines and restrict flow. The heater was repaired and the hatch was closed to resolve the issue. To prevent recurrence, the operator rounds procedure was updated to include operator actions when room temperature drops below a pre-determined value when the heat trace is out of service. The inspectors concluded that the issues have been identified in the corrective action program and timely actions are being taken to bring the monitors back to service.</p> <p>The inspectors determined that in a number of cases, Exelon's corrective action program did not correct the equipment problems resulting in repetitive unavailability. Exelon subsequently performed a Self-Assessment which confirmed the inspectors' observations, and corrective actions are either completed or planned for the degraded equipment. While these corrective actions are considered to be timely, commensurate with the safety significance of the equipment and thus not a violation of NRC requirements, they do represent an operator burden and could impact plant assessment capabilities during a postulated accident. Equipment issues included:</p> <ul style="list-style-type: none"> <li>• Unit 1 total stack flow oscillations</li> <li>• Unit 2 external heat trace failure of the stack wide range gaseous radiation monitoring system</li> </ul>	

- Unit 2 water intrusion into the stack wide range gaseous radiation monitoring system
- Unit 2 missing insulation on the stack wide range gaseous radiation monitoring system
- Unit 2 source check failures on the stack wide range gaseous radiation monitoring system

These observations were entered into the corrective action program as IR 04184941. The inspectors determined that these issues are minor in accordance with IMC 0612, Appendix B; and that Exelon's plans for corrective actions appear commensurate with the risk associated with the components and adequate to address the concerns.

Observations	71152 Semi-Annual Trend Review
<p>The inspectors evaluated a sample of issues and events that occurred over the course of the third and fourth quarters of 2018 to determine whether issues were appropriately considered as emerging or adverse trends. The inspectors verified that these issues were addressed within the scope of the corrective action program or through department review.</p> <p>The evaluation did not reveal any new trends that could indicate a more significant safety issue. The inspectors assessed that Exelon personnel were identifying trend issues at a low threshold and entering them into the corrective action program for resolution and were appropriately prioritizing investigation reviews. The inspectors noted minor adverse trends, also identified by Exelon staff, in the areas of FLEX equipment performance (IRs 04168525 and 04183223) and transient combustible control (IR 04194745). In addition, the inspectors noted a continuation of the adverse trend associated with procedure quality and adherence issues identified in the previous NRC semi-annual trend review (NRC Inspection Report 05000220/2018002 and 05000410/2018002). Following the inspectors identifying the trend during the second quarter of 2018, Exelon created IR 04157970. Exelon performed a work group evaluation; and determined the cause to be Exelon Operations staff not displaying department and site leadership necessary to achieve operational excellence in the quality of site procedures and had not set the proper site procedural standards for others to follow. More specifically, weaknesses in procedural guidance were attributed to gaps in operator questioning-attitude in regard to procedural direction and precise control of plant evolutions including procedure quality. The inspectors determined that Exelon has addressed many of the specific concerns with procedural adequacy, however with regard to the identified cause, corrective actions remain in progress. The inspectors will continue to assess the effectiveness of Exelon's corrective actions. Specific examples of the continued trend include inspectors' observations of the following:</p> <ul style="list-style-type: none"> <li>• Unit 2, as discussed in Observation Table for 71152 Annual Follow-Up, Review of Unit 2 Loss of Condensate Flow During Plant Start-up on May 12, 2018, the inspectors identified that procedure N2-OP-2, "Moisture Separator Reheater System," Revision 01200, appeared inadequate, and that a caution statement in N2-OP-2, Section E 2.0, would have provided operators an opportunity to identify the proper sequencing needed to conduct activity for the plant conditions they were in and ensure condensate flow was not isolated.</li> <li>• Unit 2 operators did not ensure that thermal power was controlled less than or equal to the licensed power limit on multiple occasions between May 22, 2018, and October 19, 2018, for extended periods of time on each occasion. This issue was documented as NCV 05000410/2018003-01.</li> </ul>	

- Fix-It-Now Maintenance staff manipulated a non-safety-related system without using proper configuration control on November 13, 2018.
- Unit 2 operators did not recognize that high pressure core spray emergency diesel generator frequency was outside of the Technical Specification surveillance acceptance criteria during post maintenance testing on December 19, 2018. Exelon then performed an evaluation to determine if the manual governor adjustment (followed by steady-state operation) made by an operator later in the emergency diesel generator run was acceptable to meet the surveillance requirement. It was subsequently determined that it was not a violation of the Technical Specification surveillance requirement.

Exelon generated IR 04217844 to address the inspector's observation of the continued trend. There were no adverse safety consequences as a result of these low-level trend issues. Based on the overall results of the semi-annual trend review, the inspectors determined that Exelon was properly identifying adverse trends at NMPNS before they became more significant safety problems. The inspectors independently evaluated the deficiencies noted above for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined these conditions were deficiencies of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

## **EXIT MEETINGS AND DEBRIEFS**

The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

- On October 18, 2018, the inspectors presented the inspection results for IP 71124.01 to Mr. Rob Kreider, Plant General Manager, and other members of the Exelon staff.
- On November 1, 2018, the inspectors presented the inspection results for IP 71111.11B to Mr. James Tsardakas, Director Site Training, and other members of the Exelon staff.
- On January 23, 2019, the inspectors presented the quarterly resident inspection results to Mr. Peter Orphanos, Site Vice President, and other members of the Exelon staff.

**DOCUMENTS REVIEWED****71111.01**Procedures

N1-OP-64, Meteorological Monitoring, Revision 01800

N2-OP-102, Meteorological Monitoring, Revision 02400

WC-AA-107, Seasonal Readiness, Revision 20

Issue Reports

04087967                      04093734                      04096186                      04141388

04150731                      04179685

Work Orders

C93632392

C93634010

**71111.04**Procedures

C-18026-C, Sheet 1, Emergency Diesel Generator 102 Starting Air, Cooling Water, Lube

Oil &amp; Fuel P&amp;ID, Revision 27

N1-ESP-SB-275, 125 VDC Battery Cell Surveillance, Revision 01300

N1-OP-2, Core Spray System, Revision 03600

N1-OP-15A, Condensate System, Revision 03300

N1-OP-16, Feedwater System Booster Pumps to Reactor, Revision 06600

N1-OP-45, Emergency Diesel Generators, Revision 04600

N1-OP-47A, 125 VDC Power System, Revision 03200

N1-ST-Q1A, Pump, Valve and SDC Water Seal Check Valve Operability Test, Revision 01800

N1-ST-Q3, High Pressure Coolant Injection Pump and Check Valve Operability Test, completed

4/5/17, 1/24/18, 4/5/18, 6/25/18, 9/8/18 and 12/9/18

N2-OP-100A, Standby Diesel Generators, Revision 02600

Issue Reports (\*initiated in response to inspection)

02630634                      03989927                      03995248                      04050119

04056151                      04066901                      04069095                      04204590\*

04204897

Work Orders

C04362756                      C93241726                      C93351625                      C93642422

C93642988                      C93643601

Drawings

C-18003-C, Sheet 1, Condensate Flow P&amp;I Diagram, Revision 61

C-18003-C, Sheet 4, Condensate Flow P&amp;I Diagram, Revision 4

C-18004-C, Feed Water Flow Low Pressure, P&amp;I Diagram, Revision 23

C-18005-C, Sheet 1, Feed Water Flow High Pressure P&amp;I Diagram, Revision 51

C-18005-C, Sheet 2, Feed Water Flow High Pressure P&amp;I Diagram, Revision 39

C-18007-C-001, Reactor Core Spray P &amp; I Diagram, Revision 62

Miscellaneous

ER-AA-600-1047, Mitigating Systems Performance Index Basis Document, Revision 11  
Maintenance Rule Basis Document for Unit 1 High Pressure Coolant Injection, viewed  
December 13, 2018

**71111.05**Procedures

N1-FPM-FPE-A001, Annual Inspection of Portable Fire Extinguishers, Revision 01900  
N1-PFP-0101, Unit 1 Pre-Fire Plans, Revision 00500  
N2-FPI-PFP-0201, Unit 2 Pre-Fire Plans, Revision 05

Issue Report

04180615

Miscellaneous

DCD-805, Nine Mile Point Unit 1 NFPA 805 Design Criteria, Revision 1

**71111.06**Drawing

12177-EB-406C-7, Sheet 3, Air & Water Tightness Design Requirements Plan EI 237'-0" and  
240'- 0", Revision 7

Procedures

N2-EPM-GEN-635, Operational Checks, Cleaning, and Inspecting Unit 2 UPSs, Revision 00800  
N2-OP-71D, Uninterruptible Power Supplies (UPS), Revision 01900  
N2-PM-S014, Building Rounds, Revision 02700

Miscellaneous

A10.1-AA-7, Max Leakage Rates for Moderate Energy Systems in Control Building and Diesel  
Generator Building, Revision 1  
A10.1-AA-8, Maximum Flood Level inside the Control Building, Revision 2

**71111.07**Procedures

GAP-HSC-02, System Aging Inspection and Cleanness Controls, Revision 02000  
N2-MMP-GEN-320, Unit Cooler Chemical Cleaning, Revision 00100  
N2-OP-52, Reactor Building Ventilation, Revision 02000  
N2-TTP-HVR-@403, Performance Evaluation Test for Unit Cooler 2HVR\*UC403A and B,  
Revision 00401  
S-TDP-REL-0102, Service Water Heat Exchanger and Component Inspection Guide,  
Revision 03  
S-TDP-REL-0103, GL 89-13 Service Water System Problems Affecting Safety-Related  
Equipment Program Plan, Revision 00

Issue Reports

04065978	04153112	04153434	04153647
04155610	04198987*		

Work Orders

C92862777

C93634000

C93643355

Miscellaneous

Commitment Response Letter NMP2L 1265, dated December 10, 1990

Commitment Response Letter NMP2L 1348, dated July 17, 1992

NRC Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment, dated July 18, 1989

NRC Information Notice 89-76, Biofouling Agent: Zebra Mussel, dated November 21, 1989

**71111.11**Procedures

N1-OP-43B, Normal Power Operations, Revision 02500

N1-ST-Q3, High Pressure Coolant Injection Pump and Check Valve Operability Test, Revision 01800

N2-OSP-ICS-Q@002, RCIC Pump and Valve Operability Test and System Integrity Test and ASME XI Functional Test and Analysis, Revision 01500

N2-SOP-08, Unplanned Power Changes, Revision 01300

Miscellaneous

Reactivity Maneuver Plan NM1C23-EM, Revision 0

**71111.12**Issue Reports

03965400

03980934

04045341

04083406

04166733

04197761

Work Orders

C93659311

C93659320

Miscellaneous

Procurement Requirements Evaluation Form 5972

Purchase Order 7717181

Supply Chain Test and Inspection Report 10-0064

TDI 740 – ESI-EMD Owners Group Guidance Document Post Maintenance Testing of On-Line Governor Replacements

**71111.13**Procedures

N2-OP-100A, Standby Diesel Generators, Revision 02600

OP-AA-108-117, Protected Equipment Program, Revision 005

OP-NM-108-117, Protected Equipment Program at Nine Mile Point, Revision 00500

OP-NM-201-012-1001, Operations On-Line Fire Risk Management at NMP, Revision 00100

**71111.15**Procedures

N1-MPM-EGF-10Y001, Diesel Generator Fuel Oil Storage Tank Cleaning, Revision 00201.01

N1-OP-45, Emergency Diesel Generators, Revision 04600

N1-PM-V19, Filling Diesel Fuel Oil Storage Tanks, Revision 00800

N1-ST-Q1A, CS 111 Pump, Valve and SDC Water Seal Check Valve Operability Test,  
Revision 01600

N1-ST-Q1A, CS 111 Pump, Valve and SDC Water Seal Check Valve Operability Test,  
Revision 01800

N1-ST-Q1B, CS 121 Pump, Valve and SDC Water Seal Check Valve Operability Test,  
Revision 02000

N2-OSP-EGS-M@002, Diesel Generator and Diesel Air Start Valve Operability Test, Division III,  
Revision 02200

N2-OSP-EGS-R006, Operating Cycle Diesel Generator 24 Hour Run and Load Rejection Test,  
Division III, Revision 01200

OP-NM-102-1001, Operations On-Line Work Management, Revision 00000

SDBD-804, Emergency Diesel Generator System, Revision 11

WC-AA-101, On-Line Work Control Process, Revision 28

WC-AA-111, Surveillance Program Requirements, Revision 6

Issue Reports

04177972	04182341	04182449	04183194*
04203952			

Work Orders

C93432297	C93441998	C93548634	C93548675
C93589384	C93625381	C93625384	C93689087

Miscellaneous

PCR-18-05278

**71111.18**Procedures

N1-MFT-129, Modification Functional Test for Panel PNL-LFP5, Revision 00100

N2-ARP-602200, 2CEC\*PNL602 Series 200 Alarm Response Procedures, Revision 00800

N2-SOP-29, Sudden Reduction in Core Flow, Revision 01700

Issue Reports

04103482  
04148579

Work Orders

C93598477  
C93649516

Miscellaneous

50.59-2018-01, Bypass Reactor Recirculation Cavitation Protection Interlock, Revision 0  
 50.59-2018-348, Bypass Reactor Recirculation Cavitation Protection Interlock, Revision 0  
 ECP-15-000005, Unit 1 Fire Panel Replacement for Local Fire Control Panel PNL-LFP5,  
 Revision 0  
 ECP-18-000388, New Computer Points and Alarm for Unit 2 Recirc Pump Subcooling  
 Differential Temperature, Revision 0  
 ECP-18-000699, ESR-18-00310 NMP-ESR (0000) – Replace 2EGS\*EG2 (Div. III HPCS Diesel  
 Generator), Revision 0  
 Unit 2, UFSAR, Revision 22

**71111.19**Procedures

GAP-HSC-02, System Aging Inspection and Cleanness Controls, Revision 02000  
 N1-ST-M4B, Emergency Diesel Generator 103 and PB 103 Operability Test, Revision 02100  
 N2-EPM-EGS-R655, 4400 KW Standby Diesel Generator and Auxiliary Equipment Refuel PM,  
 Revision 01200  
 N2-MMP-GEN-320, Unit Cooler Chemical Cleaning, Revision 00100  
 N2-MSP-EGS-R002, Diesel Generator Inspection Division III (2EGS\*EG2), Revision 01900  
 N2-OP-52, Reactor Building Ventilation, Revision 02000  
 N2-OP-100A, Standby Diesel Generators, Revision 02500  
 N2-OP-100B, HPCS Diesel Generator, Revision 02400  
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04155610	04160951	04188980	04189727

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C93181010	C93255856	C93277491	C93303671
C93340053	C93345578	C93345584	C93345590
C93359272	C93362167	C93367512	C93372157
C93387729	C93391825	C93418313	C93427723
C93522477	C93455099	C93459496	C93467604
C93469655	C93505517	C93535823	C93553779

C93558181	C93563972	C93573084	C93573449
C93582983	C93583204	C93588944	C93589119
C93589562	C93591830	C93590567	C93592457
C93593061	C93595345	C93595929	C93596127
C93596456	C93598968	C93599783	C93601170
C93603711	C93603714	C93607075	C93607984
C93609201	C93609450	C93610278	C93611344
C93613052	C93614226	C93614507	C93614785
C93615606	C93616228	C93616417	C93618215
C93618453	C93618882	C93619324	C93619476
C93620539	C93622159	C93622207	C93628992
C93632258	C93623081	C93623949	C93624402
C93624968	C93625447	C93628769	C93629108
C93627748	C93629608	C93630548	C93631499
C93632666	C93633274	C93633110	C93633689
C93634751	C93634913	C93634929	C93634944
C93634945	C93635872	C93636879	C93637527
C93638620	C93638751	C93640410	C93640867
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02552099	02552139	02637636	02644235
03954220	03991908	04082313	04082686
04088525	04096186	04099835	04136339
04137255	04140093	04142082	04155651
04131826	04132043	04133314	04134668
04135044	04135723	04135725	04156797
04160054*	04161414	04162477	04163117
04168525	04183223	04187330*	04188100
04189009	04194745	04194758*	04198228*
04204705*	04207466*	04184941*	

Work Orders

C90640029	C92141684	C92592531	C93470730
C93478886	C93479238	C93482078	C93590912
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