



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
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KING OF PRUSSIA, PENNSYLVANIA 19406-2713

January 27, 2022

Mr. David P. Rhoades
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

**SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – INTEGRATED
INSPECTION REPORT 05000333/2021004**

Dear Mr. Rhoades:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at James A. FitzPatrick Nuclear Power Plant. On January 20, 2022, the NRC inspectors discussed the results of this inspection with Mr. Tim Peter, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

Three findings of very low safety significance (Green) are documented in this report. Two of these findings involved violations of NRC requirements. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or the significance or severity of the violations documented in this inspection report, 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 James A. FitzPatrick Nuclear Power Plant.

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 James A. FitzPatrick Nuclear Power Plant.

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 at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

Erin E. Carfang, Chief
Projects Branch 1
Division of Operating Reactor Safety

Docket No. 05000333
License No. DPR-59

Enclosure:
As stated

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000333

License Number: DPR-59

Report Number: 05000333/2021004

Enterprise Identifier: I-2021-004-0039

Licensee: Exelon Generation Company, LLC

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Oswego, NY

Inspection Dates: October 1, 2021 to December 31, 2021

Inspectors: E. Miller, Senior Resident Inspector
J. England, Resident Inspector
B. Sienel, Resident Inspector
C. Swisher, Acting Resident Inspector
S. Haney, Senior Project Engineer
F. Arner, Senior Risk Analyst
W. Cook, Senior Risk Analyst,
J. Hawkins, Senior Project Engineer
P. Cataldo, Senior Reactor Inspector

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

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at James A. FitzPatrick Nuclear Power Plant, 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.

List of Findings and Violations

'A' Residual Heat Removal Pump Motor Failure Due to Maintenance Practices			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000333/2021004-01 Open/Closed	[H.13] - Consistent Process	71111.12
<p>A self-revealed Green finding and associated non-cited violation (NCV) of Title 10 of the <i>Code of Federal Regulations</i> (CFR) Part 50, Appendix B, Criterion XVI, “Corrective Actions,” was identified because Exelon did not perform adequate corrective actions associated with the ‘A’ residual heat removal (RHR) pump to address a condition adverse to quality. Specifically, the ‘A’ RHR motor experienced increased motor starts and elevated temperatures during the motor’s operating life that was not adequately addressed. As a result, on June 7, 2021, the RHR pump motor failed during offline motor insulation testing. This resulted in the pump failing to start during post-maintenance testing on June 10, 2021, and an emergency license amendment to conduct motor replacement.</p>			

Failure to Follow Maintenance Procedures for Pump Seal Assembly Replacement			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000333/2021004-02 Open/Closed	[H.5] - Work Management	71152
<p>The inspectors documented a self-revealed Green finding for Exelon’s failure to follow procedure MA-AA-716-010, "Maintenance Planning," Revision 31, and the associated work order 05078586; and maintenance procedure MP-033.05, "Condensate Booster Pump Maintenance," Revision 28, for the replacement of the ‘B’ condensate booster pump (CBP) outboard seal assembly on October 3, 2020. Specifically, Exelon failed to properly verify that the replacement seal assembly was the correct style part. This resulted in a large seal leak on the ‘B’ CBP which required a unit downpower to 84 percent to repair the pump’s seal.</p>			

Failure to Follow Scaffolding Procedural Requirements			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000333/2021004-03 Open/Closed	[H.7] - Documentation	71152
<p>The inspectors identified a Green finding and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Exelon personnel did not adequately accomplish scaffold construction, inspection, and approval in the</p>			

'A' and 'B' residual heat removal (RHR) heat exchanger rooms in accordance with approved scaffold control procedures.

Additional Tracking Items

None.

PLANT STATUS

FitzPatrick began the inspection period at rated thermal power. On October 22, 2021, operators reduced reactor power to 75 percent to perform planned control rod exercise testing and turbine valve testing. Operators restored reactor power to 100 percent on October 23, 2021, following successful testing. On November 15, 2021, operators reduced reactor power to 70 percent to perform main condenser tube leak repairs. Operators restored reactor power to 100 percent on November 16, 2021, following repairs. On November 17, 2021, operators reduced reactor power to 90 percent to perform a control rod pattern adjustment, and restored power to 100 percent the same day following the adjustment. FitzPatrick 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 activities described in IMC 2515, Appendix D, "Plant Status," conducted routine reviews using IP 71152, "Problem Identification and Resolution," observed risk significant activities, and completed on-site portions of IPs. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

- (1) 'B' RHR system on November 8, 2021
- (2) 'A' emergency service water system on November 15, 2021
- (3) 'A' and 'C' emergency diesel generator during 'B' emergency service water planned maintenance on November 16, 2021

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Turbine building south, elevation 272', fire area/zone IE/TB-1 and OR-2 on October 1, 2021

- (2) Turbine building north, elevation 252', fire area/zone IE/TB-1 on November 10, 2021
- (3) East cable tunnel, elevation 258', fire area/zone II/CT-2 on November 18, 2021
- (4) West cable tunnel, elevation 258', fire area/zone IC/CT-1 on November 18, 2021
- (5) Administration building, elevation 286', EPIC computer room, fire area/zone IA/AD-4, AD-5, on November 23, 2021

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated fire brigade performance on October 4, 2021.

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Relay room on December 15, 2021

Cable Degradation (IP Section 03.02) (1 Sample)

The inspectors evaluated cable submergence protection in:

- (1) Manhole 6B on October 8, 2021

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed operations personnel during a downpower to 70 percent to perform scram time testing and turbine valve testing on October 23, 2021.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed a simulator evaluation that included a feedwater heater level controller failure, a service water pump failure, and failure for the reactor to scram on November 2, 2021.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) 'A' RHR system on October 1, 2021
- (2) Temperature control valves for the chiller room (70TCV-123A/B) on November 22, 2021

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

- (1) 4-kilovolt Magne-Blast circuit breaker closing coil on December 16, 2021

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Elevated risk during planned maintenance on 'A' emergency diesel generator, during week of November 2 - 4, 2021
- (2) Emergent downpower due to 'B' main condenser tube leak on November 15, 2021
- (3) Emergent failure of 'C' RHR pump to start on November 30, 2021
- (4) Elevated risk during high winds on December 11, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) 23MOV-14 high pressure coolant injection steam admission valve control power fuse installation due to potential hot short fire condition on October 20, 2021
- (2) 'A' low pressure coolant injection motor operated valve independent power supply fan replacement on October 28, 2021
- (3) 93P-4A(M) 'A' emergency diesel generator direct current fuel oil pump following coupling replacement on November 4, 2021
- (4) 'D' emergency diesel generator lube oil cooler jacket water inlet temperature switch 93TI-5D following switch replacement on November 15, 2021
- (5) 'B' emergency service water system following planned maintenance and piping repair on November 18, 2021
- (6) 'C' RHR pump start switch 10A-S3C following high resistance and failure to start on November 30, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) ST-1L, Main Turbine Control Valve Instrument Channel and Valve Operability Check, on October 23, 2021
- (2) ST-9BB, EDG 'B' and 'D' Full Load Test and ESW Pump Operability Test, on November 8, 2021

- (3) ST-4E, HPCI and SGT Logic System Functional and Simulated Automatic Actuation Test, on November 18, 2021

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

- (1) The inspectors observed a simulator evaluation that included a feedwater heater level control switch failure, a service water pump failure, and failure for the reactor to scram on November 2, 2021.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

MS06: Emergency AC Power Systems (IP Section 02.05) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

MS07: High Pressure Injection Systems (IP Section 02.06) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

MS08: Heat Removal Systems (IP Section 02.07) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

71152 - Problem Identification and Resolution (PI&R)

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends that might be indicative of a more significant safety issue.

Annual Follow-up of Selected Issues (IP Section 02.03) (3 Samples)

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

- (1) IR 04388425, Review of the 'B' Condensate Booster Pump Outboard Seal Failure
- (2) IR 04406839 and IR 04438445, Structures Monitoring of Manholes and Cable Monitoring Program
- (3) IR 04428511, 'A' Residual Heat Removal Pump Motor Failure

INSPECTION RESULTS

'A' Residual Heat Removal Pump Motor Failure Due to Maintenance Practices			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000333/2021004-01 Open/Closed	[H.13] - Consistent Process	71111.12
<p>A self-revealed Green finding and associated non-cited violation (NCV) of Title 10 of the <i>Code of Federal Regulations</i> (CFR) Part 50, Appendix B, Criterion XVI, “Corrective Actions,” was identified because Exelon did not perform adequate corrective actions associated with the ‘A’ residual heat removal (RHR) pump to address a condition adverse to quality. Specifically, the ‘A’ RHR motor experienced increased motor starts and elevated temperatures during the motor’s operating life that was not adequately addressed. As a result, on June 7, 2021, the RHR pump motor failed during offline motor insulation testing. This resulted in the pump failing to start during post-maintenance testing on June 10, 2021, and an emergency license amendment to conduct motor replacement.</p> <p><u>Description:</u> The RHR system is a high capacity, low pressure system with multiple operating modes including low pressure coolant injection in the event of a loss of coolant accident. Each RHR train contains two pumps and one heat exchanger with associated piping and valves. Each RHR pump is driven by a 4,000-volt alternating current electrical motor.</p> <p>On June 7, 2021, Exelon was performing planned offline motor testing on the 'A' RHR motor as part of their preventive maintenance (PM) program testing. During the testing window, Exelon performed a controlled overvoltage test (HiPot) on the 'A' RHR motor for the first time. HiPot testing is an electrical test performed at higher than motor operating voltage to detect a potential degradation in motor insulation. During this testing, the 'A' RHR motor failed due to an insulation failure induced by the higher voltages of the HiPot testing. As a result, on June 10, 2021, during a run of the ‘A’ RHR motor for post-maintenance testing, the ‘A’ RHR motor failed to start. Subsequently, on June 12, 2021, Exelon requested an emergency license amendment request for a one-time extension to the completion time of Technical Specification (TS) 3.5.1, Condition A; TS 3.6.1.9, Condition A; and TS 3.6.4.1, Condition A to support RHR pump motor replacement. The NRC issued the emergency license amendment on June 14, 2021.</p> <p>Exelon performed a cause evaluation and determined the direct cause to be an electrical short due to insulation breakdown, and a final stressor from the HiPot test. The station identified over-utilization of the ‘A’ pump in comparison to the other three. For comparison, the ‘A’ motor had 15,512 hours of run time, while the ‘B’ motor had 9,629 hours. In addition, the evaluation also identified that the station had historically not performed HiPot testing and</p>			

should have been to detect degrading trends in motor insulation. The station also identified a misinterpretation of JAF-RPT-13-00005, "RHR and CS Pump Motor EQ Life Extension Study," Revision 0, to support overall life of the motor and failed to recognize this as qualified life.

The inspectors reviewed the cause evaluation and conducted additional review. The inspectors identified additional documentation that indicated the station was aware of a long-term trend associated with elevated motor winding temperatures. Stator winding insulation begins to break down due to high ambient temperature over time (thermal aging), under- or over voltage, and due to transients and surges (i.e., momentary elevated electrical current during startup).

The inspectors reviewed 'A' RHR motor component health documents, which were conducted in accordance with Entergy procedure EN-DC-325, "Component Performance Monitoring," Revision 9. In December 2003, the station identified that the 'A' RHR motor was running with an elevated temperature and implemented actions to monitor performance through the PM program. The inspectors also identified during a design basis assurance inspection in 2016, a concern with reliability due to the motor being run in the service factor load region, which results in higher motor temperatures due to a lower operating voltage and increased current. The inspectors also noted corrective action program product CR-2002-3132 developed corrective actions to raise the alarm setpoint for the motor from 285 degrees Fahrenheit to 302 degrees Fahrenheit, recognizing the elevated motor operating temperature.

Prior to 2017, FitzPatrick implemented EN-DC-324, "Preventive Maintenance Program," Revision 17. Section 5.4.7.d required verification that the PM basis template and strategy were applied to the component. Procedure EN-DC-335, "PM Basis Template," Revision 6, Section 5.2.6.4 requires justification to deviate from a PM basis template. As part of Entergy, prior to 2017, FitzPatrick did not perform HiPot testing in accordance with Entergy's PM basis template. The inspectors determined that Exelon's contributing cause of having not performed HiPot testing was reasonable to foresee and correct prior to conducting the first-time test on June 7, 2021.

Corrective Actions: Exelon replaced the 'A' RHR pump motor with a spare. Exelon performed a corrective action program evaluation (CAPE) and has developed actions to monitor pump starts and run time for RHR and core spray pumps. In addition, Exelon assessed extent of condition for the 24 remaining safety pumps at FitzPatrick to determine the offline motor PM strategy going forward, as well as reviewed motor start limitations. This includes updating work orders to add language to ensure HiPot tests are not performed without proper evaluation and justification.

Corrective Action References: IR 4428511

Performance Assessment:

Performance Deficiency: Exelon did not perform adequate corrective actions associated with the 'A' RHR pump to address a condition adverse to quality. Specifically, the 'A' RHR motor experienced increased motor starts and elevated temperatures during the motor's operating life that was not adequately addressed. As a result, on June 7, 2021, the RHR pump motor failed during offline motor insulation testing. This resulted in the pump failing to start during post maintenance testing on June 12, 2021, and an emergency license amendment to conduct motor replacement.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Exelon did not perform adequate corrective actions associated with the 'A' RHR pump to address a condition adverse to quality. The 'A' RHR motor experienced increased motor starts and elevated temperatures during the motor's operating life that was not adequately addressed. This resulted in a failure to detect a degrading trend in the 'A' RHR motor insulation health using appropriate testing, and motor failure during the HiPot test on June 7, 2021. This finding was similar to IMC 0612, Appendix E, Example 4.k because the station failed to perform HiPot testing as required, which resulted in a failure to detect a degrading trend in the 'A' RHR motor insulation health. As a result, the mitigating system cornerstone was adversely affected resulting in the need for an emergency license amendment to avoid the TS required shutdown.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Exhibit 2, Section A, Question 3 was answered "Yes", requiring a detailed risk evaluation.

The regional senior reactor analyst (SRA) made the following assumptions with respect to exposure time and crediting risk management actions (RMAs). The performance deficiency is assumed to have occurred on day 1 when HiPot testing occurred. This resulted in motor failure as revealed during post-maintenance testing on day 3 of an allowed TS outage time of 7 days for the applicable plant condition. This was a normal maintenance outage window for which the requirements of 10 CFR 50.65 (a)(4) were met to mitigate plant risk. Following the failure, Exelon requested and was granted an emergency TS amendment for a one-time extension of the RHR containment spray system allowed outage time from 7 to 34 days with additional RMAs required to be in place.

This extension was effective on June 14, 2021, at 2000 and lasted until June 22, 2021, at 0150 when the 'A' motor and RHR containment spray subsystem was returned to service. The additional RMAs required by the emergency TS amendment were credited during the final 7.25 days of exposure to acknowledge the fact that without an emergency TS amendment, operators would have performed a plant shutdown to Mode 4 as required by the original TSs.

Thus, the exposure period for the condition is bounded by the sum of the original maintenance window (7 days) and the additional 7.25 days (June 14, 2021, 8:00 pm through June 22, 2021, 1:50 am), which is 14.25 days total.

An SRA conducted an event assessment using the FitzPatrick SPAR Model, Revision 8.59 dated June 3, 2019, and SAPHIRE, Version 8.2.5. The analyst set basic event RHR-MDP-TM-A, [RHR A train pump unavailable due to test and maintenance], to TRUE to model the failure since the pump motor was in a maintenance status. This precludes a common cause factor adjustment since the failure occurred during maintenance. This condition was assessed for 7 days. For the 7.25 days associated with the TS AOT extension, the analyst also set test and maintenance to FALSE for all equipment specified as protected via the emergency TS required risk management actions and assessed this case separately. The two assessments were added together to estimate total plant risk.

The plant risk was determined to be an increase in CDF of 4.3E-7 per year with a dominant accident sequence of a loss of Division 2 AC bus, containment leakage after long-term loss of high pressure injection and decay heat removal, and failure to manually vent containment. A sensitivity case was assessed regarding FLEX equipment credit and determined to be insensitive to the changes. Risk contribution from fire and external events was considered negligible based on the compensatory measures in place during maintenance and emergency TS extension time periods. The analyst also used SAPHIRE and IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," dated March 23, 2020, to determine the total increase in large early release frequency of the finding, which was assessed to be less than 1.0 E-7 per year. Therefore, the calculated increase in CDF due to the condition resulted in an issue of very low safety significance (Green).

Cross-Cutting Aspect: H.13 - Consistent Process: Individuals use a consistent, systematic approach to make decisions. Risk insights are incorporated as appropriate. Risk insights are incorporated as appropriate. The inspectors determined that this finding had a cross-cutting aspect of Consistent Process because the station failed to adequately evaluate the HiPot results prior to proceeding with post maintenance testing on June 10, 2021, resulting in the motor failure.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures shall be established to assure conditions adverse to quality are promptly identified and corrected.

FitzPatrick TS 3.5.1 requires emergency core cooling systems to be operable in Mode 1 and if one low pressure emergency core cooling system injection/spray subsystem or low pressure coolant injection pump in a low pressure coolant injection subsystem becomes inoperable, it shall be returned to an operable status within 7 days or the unit shall enter TS 3.0.3, which directs the unit be placed in Mode 2 within 7 hours, Mode 3 within 13 hours, and Mode 4 within 37 hours.

Contrary to above, from approximately 2017 to June 7, 2021, Exelon did not establish measures to assure conditions adverse to quality were promptly identified and corrected. Specifically, although the 'A' RHR motor experienced increased motor starts and elevated temperatures during the motor's operating life, Exelon did not implement adequate actions to address these issues.

As a result, on June 10, 2021, during attempted run of the 'A' RHR motor for post-maintenance testing, the 'A' RHR motor failed to start. Subsequently, on June 12, 2021, Exelon requested an emergency license amendment request for a one-time extension to the completion time of TS 3.5.1, Condition A; TS 3.6.1.9, Condition A; and TS 3.6.4.1, Condition A to support RHR pump motor replacement. The NRC issued Emergency License Amendment No. 342, "One Time Extension of Completion Times to Support Residual Heat Removal Pump Motor Replacement," on June 14, 2021 (ML21162A042).

Enforcement Action: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Follow Maintenance Procedures for Pump Seal Assembly Replacement			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000333/2021004-02 Open/Closed	[H.5] - Work Management	71152
<p>The inspectors documented a self-revealed Green finding for Exelon's failure to follow procedure MA-AA-716-010, "Maintenance Planning," Revision 31, and the associated work order 05078586; and maintenance procedure MP-033.05, "Condensate Booster Pump Maintenance," Revision 28, for the replacement of the 'B' condensate booster pump (CBP) outboard seal assembly on October 3, 2020. Specifically, Exelon failed to properly verify that the replacement seal assembly was the correct style part. This resulted in a large seal leak on the 'B' CBP which required a unit downpower to 84 percent to repair the pump's seal.</p> <p><u>Description:</u> During the fall 2020 refueling outage, Exelon performed planned maintenance on the 'B' CBP, which included a replacement of the outboard seal assembly. On November 2, 2020, after the plant was started up, the 'B' CBP developed a seal leak which was documented in IR 04381539. Exelon developed an adverse condition monitoring plan for the seal leakage, which worsened over time, eventually requiring a downpower to remove the pump from service for repairs on December 3, 2020.</p> <p>Each CBP utilizes two mechanical seal assemblies and there are three different models or styles of seal assemblies that can be used depending on the specific pump. In response to the 'B' CBP seal failure, Exelon performed a CAPE under IR 04388425 for the 'B' CBP seal failure, which determined that a misconfigured seal was installed during the planned refueling outage maintenance in fall 2020. Specifically, instead of installing the required 'C' style seal, Exelon incorrectly installed a misconfigured 'B' style seal with more internal springs than designed as the replacement part in the outboard seal location. Exelon's CAPE determined that procedure MP-033.05, "Condensate Booster Pump Maintenance," Revision 28, lacked clarity on which style seal to utilize during replacement of the seal assembly. Exelon also determined that this procedure did not contain information on the seal style that was used by their maintenance technicians during the replacement.</p> <p>The inspectors reviewed Exelon's CAPE, maintenance and procurement procedures, and work instructions for the 'B' CBP seal failure. The inspectors noted during their review and subsequent discussions with Exelon staff that work order 05078586 specifically listed the 'C' style seal assemblies be utilized for the planned replacement, and that procedure MP-033.05, as discussed above, lacked clarity on which style seal to use (only containing information for the 'A' and 'C' style seals) but also did not contain information on the 'B' style seal (which was the style seal that was installed and ultimately failed). The inspectors also noted that Exelon's procedure ER-AA-200-1001, "Equipment Classification," Revision 6, defines the CBP as not safety-related but an operational critical component (OPCC) which means that if the pump fails, the failure would result in a significant power transient of greater than 20 percent. Exelon's procedure MA-AA-716-010, "Maintenance Planning," Revision 31, states, in part, the following:</p> <ul style="list-style-type: none"> • Section 2.12, OPCCs require additional controls be incorporated into associated work instructions to provide quality verifications that reduce the introduction of latent issues or operational failures • Section 4.20, work package instructions should provide for verification of form, fit, and function of the intended replacement parts 			

- Section 4.25, ensure all replacement parts identified to perform the work package activities are qualified, meaning the correct model and/or style

Based on the above, the inspectors determined that Exelon did not follow their maintenance planning procedure, MA-AA-716-010, and the associated work order and maintenance procedure for the replacement of the 'B' CBP outboard seal assembly. Specifically, Exelon failed to properly verify that the replacement seal assembly was the correct style part, which resulted in the incorrect style seal assembly being installed.

Corrective Actions: Exelon's corrective actions included replacing the 'B' CBP seals with the correct style seal assemblies, revising their CBP maintenance procedures including steps in their work packages for the verification of the correct parts for the CBPs, performing an extent of condition on the other CBP seals, and revising procurement procedures to ensure adequate traceability of the CBP seal assemblies.

Corrective Action References: IR 04388425

Performance Assessment:

Performance Deficiency: Exelon's failure to follow their maintenance planning procedure, MA-AA-716-010, and the associated work order and maintenance procedure for the replacement of the 'B' CBP outboard seal assembly was a performance deficiency that was reasonably within their ability to foresee and prevent.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, Exelon failed to properly verify that the replacement seal assembly was the correct style part. This resulted in a large seal leak on the 'B' CBP which required a unit downpower to 84 percent to repair the pump's seal.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using the questions in Exhibit 1, "Initiating Events Screening Questions," the inspectors determined the finding was of very low safety significance (Green) because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition.

Cross-Cutting Aspect: H.5 - Work Management: The organization implements a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, Exelon did not implement an adequate process of planning, controlling, and executing the 'B' CBP seal replacement work activity, which resulted in the incorrect style seal assembly being installed.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

Failure to Follow Scaffolding Procedural Requirements			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000333/2021004-03 Open/Closed	[H.7] - Documentation	71152
<p>The inspectors identified a Green finding and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Exelon personnel did not adequately accomplish scaffold construction, inspection, and approval in the 'A' and 'B' residual heat removal (RHR) heat exchanger rooms in accordance with approved scaffold control procedures.</p> <p><u>Description:</u> In September 2021, during routine walkdowns, the inspectors identified multiple instances of scaffolding that was not constructed in accordance with Exelon procedures. On September 14, 2021, Exelon documented these issues, as well as others identified through extent of condition walkdowns, in IR 04446321. Exelon's IR stated that, "There are currently plant scaffolds that have been installed greater than 90 days that either do not have traceable 50.59 screenings (for long term scaffolding) or have not been processed as permanent scaffold in accordance with procedure MA-AA-716-025, "Scaffold Installation, Modification, and Removal Request Process Revision 18." This IR also documented a work group evaluation in which Exelon determined that the lack of scaffolding approval and support documentation was the result of change management issues after integrating the plant into the Exelon fleet in 2017. Exelon also completed technical evaluations for the 'A' RHR heat exchanger room scaffolding (engineering change [EC] 635113; scaffold #8268198404) and the 'B' RHR heat exchanger room scaffolding (EC 635117; scaffold #0488094737). Per MA-AA-716-025, because not all of the scaffolding criteria were met, these evaluations were required yet not completed prior to exceeding the 90-day requirement for long-term scaffolding installation.</p> <p>EC 635113 determined, in part, that scaffold grating was in contact with RHR solenoid operated valves (10SOV-263A and -264A) flex cable and had low clearance (almost touching) to the -264A instrument tubing. Likewise, EC 635117 for the 'B' RHR heat exchanger scaffolding determined that the scaffolding was in contact with multiple solenoid operated valve flex cables and a pipe support base plate. These evaluations resulted in the requirement of a yearly inspection for potential degradation to the flex cable and instrument tubing (Exelon created action 04333842-34.) Exelon confirmed there was no observable damage to the flex cable or the instrument tubing and that with these additional actions in place, the scaffold was acceptable to remain in place as permanent scaffold in accordance with MA-AA-716-025.</p> <p>The inspectors identified that Exelon constructed and approved the scaffolding in the 'A' and 'B' RHR heat exchanger rooms contrary to the scaffold control and installation procedures. Specifically, the inspectors noted the following procedural requirements:</p> <ul style="list-style-type: none"> MA-AA-716-025, "Scaffold Installation and Removal Request Process," Revision 18, Section 3.6 - Scaffold coordinator is responsible for maintaining and reviewing (monthly review and engineering notification required in Section 4.7.1) the scaffolding log to ensure that any scaffolds approaching their 90-day limit are removed, converted to permanent scaffolding, or reviewed under 50.59. Section 4.1.5 – NOTE: Engineering should document discrepancies and deviations that are reviewed and determined acceptable. 			

- MA-AA-716-025-F-5, "Station Permanent Scaffold Request Engineering Evaluation Form Step 16." Is the scaffold installed in a configuration such that relative movement between structures (e.g., seismic or thermal) may result in adverse effects on the scaffold or plant equipment?
- EC 624790, "Seismic Scaffold Criteria for JAF," Revision 0, documents engineering approval for the use of the seismic scaffold criteria stated within the previous Entergy procedure, EN-MA-113, "Control of Scaffolding," Attachment 9.2, Revision 15. The criteria in Attachment 9.2 states that in the event the scaffolding will deviate from the requirements of Attachment 9.2, then a documented engineering evaluation is required (Attachment 9.5); all braced scaffold members should maintain a minimum horizontal and vertical separation of 2 inches or greater from safety-related equipment; and Attachment 9.5 states that an engineering evaluation documents any deviations from Attachment 9.2 and requires an engineering disposition and basis for why each deviation is acceptable.
- MA-AA-796-024, "Scaffold Installation, Inspection and Removal," Revision 12, Section 3.2 states that scaffolds requiring deviations from this procedure shall be approved by engineering.
- MA-AA-796-024-F-01, "Scaffold/Vertical Barrier Inspection Check List," Revision 0, Step 15 and 16 verifies that the scaffold is not supported by, in contact with or connected to safety related equipment, and that all seismic clearances are maintained. Section 4.5.3 requires that this checklist will be maintained as a record by the scaffold coordinator/designee until removal of the scaffold.

Contrary to these procedural requirements, Exelon constructed, inspected, and approved the scaffolding in the 'A' and 'B' RHR heat exchanger rooms without documenting and then evaluating the existing seismic criteria deviations. In addition, Exelon did not ensure the scaffold inspection checklists were maintained as a record, and did not perform adequate periodic reviews of the scaffolding log to ensure that any scaffolds approaching their 90-day limit were removed, converted to permanent scaffolding, or reviewed under 50.59.

Corrective Actions: Exelon performed the required engineering evaluations required for the RHR heat room scaffolding, performed extent-of-condition walkdowns of all accessible scaffolding in the plant, reviewed the scaffolding procedural requirements with all staff, and initiated actions to remove all scaffolding not required to be permanently installed.

Corrective Action References: IR 04446321

Performance Assessment:

Performance Deficiency: Exelon constructed, inspected, and approved scaffolding in the 'A' and 'B' RHR heat exchanger rooms that was contrary to the scaffold control procedures. Specifically, scaffolding in these rooms were in direct contact with safety-related equipment without an engineering evaluation, the scaffolding inspection checklists were not maintained as records, and the periodic scaffolding reviews were not performed. This represented a performance deficiency that was within Exelon's ability to foresee and correct, and which should have been prevented.

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. In addition, the inspectors determined it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the

cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Exelon's failure to follow their procedural requirements for scaffolding demonstrated inadequate procedural controls to build, maintain, and periodically review scaffolding in and around safety-related equipment, which could lead to scaffolding causing deterioration and resultant failures of safety-related components.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, they determined this finding was of very low safety significance (Green) because "Yes" was not answered to any of the screening questions.

Cross-Cutting Aspect: H.7 - Documentation: The organization creates and maintains complete, accurate and up-to-date documentation. The inspectors determined that Exelon personnel did not adequately maintain scaffold construction, inspection, and approval documentation in accordance with approved scaffold control procedures.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Exelon procedures MA-AA-796-024, "Scaffold Installation, Inspection and Removal," and EN-MA-113, "Control of Scaffolding," Attachment 9.2 and 9.5, require that all braced scaffold members maintain a minimum horizontal and vertical separation of 2 inches or greater from safety-related equipment and the performance of an engineering evaluation to document any deviations including the engineering disposition and basis for why each deviation is acceptable. Procedure MA-AA-716-025, "Scaffold Installation and Removal Request Process," requires the periodic review of the scaffolding log, and MA-AA-796-024-F-01, "Scaffold/Vertical Barrier Inspection Check List," requires that the scaffolding inspection checklist be maintained as a record.

Contrary to the above, from approximately March 2017 to September 2021, Exelon personnel did not adequately accomplish scaffold construction, inspection, and approval in the 'A' and 'B' RHR heat exchanger rooms in accordance with approved scaffold control procedures. Specifically, scaffolding in these rooms were in direct contact with safety-related equipment without an engineering evaluation, the scaffolding inspection checklists were not maintained as records, and periodic scaffolding reviews were not performed.

Enforcement Action: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Minor Performance Deficiency

71152

Minor Performance Deficiency: The inspectors evaluated a sample of issues and events that occurred over the third and fourth quarters of 2021. The evaluation did not reveal any new trends that could indicate a more significant safety issue. The inspectors determined that, in most cases, the issues were appropriately evaluated by Exelon staff for potential trends at a low threshold, and resolved within the scope of the corrective action program. The inspectors identified that the equipment failure trend previously identified has continued and has not

been adequately evaluated for potential common causes. Additional failures during this review period included a reactor core isolation cooling steam line differential pressure flow transmitter, a high pressure coolant injection discharge valve failing to open during functional testing, a control room/relay room temperature control valve failing to reposition, 'B' main condenser tube leakage which required a downpower and repair, and 'C' RHR pump failing to start during surveillance testing.

The inspectors also identified a trend associated with Exelon not adhering to corrective action program requirements to document, track, and implement actions:

- On September 24, 2021, the inspectors identified a Green NCV (05000333/2021040-01) for failure to identify corrective actions to preclude repetition for a significant condition adverse to quality at FitzPatrick pertaining to a White performance issue, or to provide a technical basis for the omission of corrective actions as applied to FitzPatrick during a 95001 Supplemental Inspection.
- On December 17, 2021, NRC identified the corrective action to prevent recurrence for supplemental inspection was reopened and updated in Passport without the change being fully approved.
- On April 20, 2020, the NRC issued NCV 05000333/2020011-01, "Unprotected Direct Current Control Circuits Running Through Multiple Fire Areas." Exelon identified that the non-safety-related 125-volt direct current control circuits for four balance of plant pumps were not provided with overcurrent protection, such as fuses. The inspectors identified IR 4259118, Assignment 6 identified circuit coordination issues that were not addressed.
- On October 22, 2021, Exelon Nuclear Oversight identified in IR 4454846 issues with documenting corrective actions for significance level 3 IRs. This included corrective actions not properly documented for four NRC violations, specifically:
 - IR 4341409, NCV 05000333/2020001-01, associated with inadequate compensatory measures during HPCI and SGT logic system functional testing
 - IR 4368024, NCV 05000333/2020410-02, associated with badging workstation controls
 - IR 4341412, NCV 05000333/2020011-02, untimely LER unprotected circuits
 - IR 4403584, NCV 05000333/2020004-02, unplanned intake of radioactive material
- On January 4, 2021, inspectors identified a failure to adequately address a minor violation associated with Technical Specification 3.4.5, "RCS Leakage Detection Instrumentation," in NRC Inspection Report 05000333/2020004. Exelon is addressing this in IR 04394510.

The station wrote IR 04443511 to address the developing trend based on internal review, NRC problem identification and resolution inspections, and Nuclear Oversight audits.

Based on the overall results of the semi-annual trend review, the inspectors determined that Exelon had generally identified adverse trends before they could become 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," and determined them to be minor.

Minor Performance Deficiency	71152
<p>Minor Performance Deficiency: FitzPatrick License Condition 2(T)(a), "License Renewal," states UFSAR (Updated Final Safety Analysis Report) supplement submitted pursuant to 10 CFR 54.21(d) as revised during the license renewal application review process, and as supplemented by Appendix A of NUREG-1905, "Safety Evaluation Report Related to the License Renewal of James A. FitzPatrick Nuclear Power Plant (JAF)," dated April 2008, describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO) and that licensees shall implement those new programs and enhancements to existing programs no later than the PEO date. In addition, FitzPatrick UFSAR Section 16.10.1.30, "Structures Monitoring – Structures Monitoring Program," requires as part of license renewal to monitor structures in accordance with 10 CFR 50.65 (Maintenance Rule). Periodic inspections are used to monitor the condition of structures and structural components to ensure there is no loss of structure or structural component intended function. The program specifies several structures which includes manholes and is implemented at FitzPatrick in accordance with EN-DC-150, "Conditions Monitoring of Maintenance Rule Structures," Revision 6. FitzPatrick has 15 manholes that are concrete vaults containing steel-mounted support structures that contain safety-related and non-safety-related electrical cables.</p> <p>The inspectors conducted a review of the past 2 years of corrective action program documents associated with structural monitoring of manholes and the stations maintenance rule structural monitoring reports, noting the following issues:</p> <ul style="list-style-type: none"> • During station manhole sump pump repairs in October 2021, concrete cracks were identified in manhole MH-7B in the 115-kilovolt switchyard. (IR 04451748) • During an NRC inspection in October 2020 following a sump pump failure, concrete surface cracking was identified in manhole MH-1. (IR 04375824) • FitzPatrick has documented routine challenges with manhole sump pumps and the corrosion of steel support structures in the manholes. However, this documentation did not include the condition of the concrete vaults or duct banks leading to the vaults. (CR-2015-03938) <p>The inspectors also reviewed the FitzPatrick manhole inspections that the site is committed to performing every 5 years, previously performed in 2018 and 2013, in accordance with inspection procedure 12-YD-271-008-00. The inspectors determined that FitzPatrick's manhole inspections did not include visual inspections of the concrete, which is similar to a recently issued NRC NCV 05000333/2021003-01 (ML21309A024) associated with Exelon's failure to perform inspections of the intake structure. Exelon generated IR 04462575 to address the missing inspections.</p> <p>In addition to the observations above, the inspectors noted since Exelon became the owner and operator of FitzPatrick, the station ceased implementation of EN-DC-346, "Cable Reliability Program," Revision 6, effective September 21, 2017. Prior to Exelon becoming the owner, FitzPatrick had planned to transition to ER-AA-300-150, "Cable Condition Monitoring Program," Revision 5, however the program was not effectively implemented. The inspectors noted during a review of the past 10 years that numerous challenges with sump pump failures in manholes have resulted in the repeated wetting and drying of cables. Exelon generated IR 04406839 to resolve compliance with the Exelon Cable Condition Monitoring Program.</p> <p>The inspectors evaluated the issues above using IMC 0612, Appendix B, "Issue Screening," and IMC 0612, Appendix E, "Examples of Minor Issues," and determined that the failure to</p>	

perform structural monitoring inspections is currently being addressed as part of the extent of condition for NCV 05000333/2021003-01 in IRs 04462037 and 04438445-02. In addition, the inspectors determined that although the license renewal inspections have not been completed, the program deficiencies are being entered into the corrective action program and evaluated. The inspectors also determined that although the cable monitoring program is not being effectively implemented, this issue is of minor significance because there have not been any cable failures or impact to safety-related equipment.

Minor Performance Deficiency	71152
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Minor Performance Deficiency: Exelon documented and evaluated the December 3, 2020, failure of the 'B' CBP outboard seal in a CAPE under IR 04388425. The inspectors performed a review of this CAPE to, in part, assess Exelon's ability to adequately identify problems, evaluate the causes of the equipment issues and resolve the issues in a timely manner.

Exelon's CAPE determined that an improperly configured and installed 'B' style seal assembly, which had 24 vice 12 internal loading springs installed, was the apparent cause. This improperly configured seal resulted in excessive compressive load being applied to the seal stationary face and led to the development of a seal leak and the need for the seal to be replaced. The CAPE also determined that a contributing cause to this improperly configured seal being installed was the lack of clarity in the CBP maintenance procedure, MP-033.05, Revision 28, on which style seal to utilize during the replacement of the seal assembly. The procedure was also noted to not contain information on the seal style that was used by their maintenance technicians during the replacement. The inspectors reviewed the work order (WO 05078586) associated with the 'B' CBP seal replacement that occurred prior to the failure in the fall of 2020 and found that the work order listed the 'C' style seal assembly in the list of materials but did not document any 'C' or 'B' style seals being issued to perform the seal replacement work. During follow-up discussions with Exelon staff, the inspectors learned that seal assemblies that had been previously issued for planned work on the 'A' CBP, which was not conducted, were used for the work on the 'B' CBP under a different work order.

The inspectors also found that the CAPE concluded that the traceability of the failed seal could not be determined because it was a commercial grade item without a serial number. However, during follow-up discussions with Exelon staff, the inspectors learned that the purchase orders used to procure the commercial grade CBP seals could allow for traceability of the failed seal back to a specific batch number, date of purchase, and work order allocation. The inspectors noted that the CAPE did not include any of this information, and that this information could have been used to aid in the evaluation's investigation and assessment of the misconfigured seal's origination.

As a result of this review, the inspectors noted that Exelon entered these issues into their corrective action program. These issues, where contrary to Exelon's requirements or standards, were determined to be minor performance deficiencies in accordance with NRC IMC 0612, and were not subject to enforcement action in accordance with the NRC's Enforcement Policy. However, the inspectors determined that one more than minor performance deficiency and associated finding existed, and that finding is documented in Section 71152 of this report.

Minor Performance Deficiency	71152
<p>Minor Performance Deficiency: The inspectors noted there were additional enhancement opportunities associated with the offline motor testing procedure. The inspectors noted that MA-AA-723-330, "Electrical Test of AC Motors using Baker Instrument Advanced Winding Analyzer," Revision 6, Section 3.3.2 contains a prerequisite to review previous motor testing data, if available. The procedure also references the use of industry standard IEEE Std. 95-2002, "IEEE Recommended Practice for Insulation Testing of Large AC Rotating Machinery with High Direct Voltage," April 12, 2002 (IEEE 95). The inspectors noted that Section 4.1 of IEEE 95 states, "before making a high-direct voltage test, the stator winding should be deemed suitable for high voltage testing. Insulation resistance and polarization index should be at or above minimum values as specified in IEE Std. 43-2000." Polarization index testing has historically been conducted at FitzPatrick, and this offers an opportunity to determine insulation health prior to any future large motor offline testing.</p> <p>In addition, MA-AA-716-210-1002, "Exelon Motor Maintenance Logic Tree," Revision 6 identifies in Figure 3 to determine if a spare exists. If one exists, develop testing against various failure mechanisms. It also states to determine if a failure mode exists, and to consider using specific preventive maintenance or corrective maintenance. Following retrieval of the replacement motor on June 13, 2021, the replacement motor bearings did not support reliable motor operation and required replacement and additional testing.</p> <p>The inspectors identified during review that the data associated with HiPot Testing for the 'A' RHR motor showed a step interval that was not consistent with direction provided in MA-AA-723-330, Attachment 1. Specifically, the data showed a voltage increase step interval of 30 seconds, when Attachment 1 specified a test interval of 180 seconds. Discussions with Exelon staff indicated that the maintenance and test equipment was input properly but was over-ridden by the machine unexpectedly. This aspect was not captured or evaluated in the CAPE.</p> <p>As a result of this review, the inspectors noted that Exelon entered these issues into their corrective action program. These issues, where contrary to Exelon's requirements or standards, were determined to be minor performance deficiencies in accordance with NRC IMC 0612, and were not subject to enforcement action in accordance with the NRC's Enforcement Policy. However, the inspectors determined that one more than minor performance deficiency and associated finding existed, and that finding is documented in Section 71152 of this report.</p>	

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On January 20, 2022, the inspectors presented the integrated inspection results to Mr. Tim Peter, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Drawings	FM-20A	Flow Diagram Residual Heat Removal System 10	73
		FM-46B	Flow Diagram Emergency Service Water System 46 & 15	57
	Procedures	OP-22	Diesel Generator Emergency Power	71
71111.05	Fire Plans	PFP-PWR01	East Cable Tunnel, Elevation 258', Fire Area/Fire Zone II/CT-2	3
		PFP-PWR02	West Cable Tunnel, Elevation 258', Fire Area/Fire Zone IC/CT-1	05
		PFP-PWR05	Administration Building/Elev. 286'	5
		PFP-PWR42	Turbine Building North/Elevation 252' Fire Area/Fire Zone IE/TB-1	4
		PFP-PWR46	Turbine Building South/Elevation 272', Fire Area IE/Fire Zone TB-1, OR-2	6
	Procedures	OP-AA-201-003	Fire Drill Performance	19
71111.06	Corrective Action Documents	04265259		
		04451723		
		04451748		
	Procedures	OP-AA-103-104	JAF Standing Order 19-012, Relay Room Walk Downs	3
	Work Orders	05174197		
71111.11Q	Procedures	RAP-7.4.01	Control Rod Scram Time Evaluation	32
71111.12	Corrective Action Documents	04450119		
	Engineering Evaluations	Procurement Engineering Evaluation 76217	Coil, Trip/Close Potential, 125 VDC, 4KV Magne-Blast Circuit Breaker	04/21/2010
	Miscellaneous	DBD-070	Design Basis Document for the Control Room and Relay Room Ventilation and Cooling Systems	14
		Exelon PowerLabs Report JAF-46576	CGD (Commercial Grade Dedication) Test of Coil, Stock ID J0191028	11/26/2021
		Purchase Orders 821835, 821835,	Coil, Trip/Close, 125 Volt Direct Current (DC) 4kilovolt Magne-Blast Circuit Breaker	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		and 450002057		
	Procedures	SM-AA-102	Warehouse Operations	32
71111.13	Corrective Action Documents	04460891		
		04461124		
		04461328		
		04463794		
	Procedures	AOP-13	Severe Weather	38
		JF-CRM-002	FitzPatrick PARAGON Operator User Guidance Document	2
		OP-AA-108-111-1001	Severe Weather and Natural Disaster Guidelines	23
	OP-AA-108-117	Protected Equipment Program	6	
	WC-AA-101	On-line Work Control Process	31	
71111.19	Corrective Action Documents	04455787		
		04458493		
		04459296		
	Engineering Changes	634899	Install Additional Secondary Fire Appendix R Circuit Protection	1
	Procedures	IMP-93.2	Emergency Diesel Generator System Temperature Switch Maintenance	12
		IMP-G2	Temperature Indicator Maintenance	6
		ST-8Q	Testing of the Emergency Service Water System (IST)	55
	Work Orders	04903746		
		05181469		
		05181472		
		05193813		
		05199242		
		05202925		
	05209073			
71111.22	Corrective Action Documents	04461845		
	Drawings	ESK-11AL	Elementary Diagram 125VDC CKTS MOV HPCI System 23 MOV 17 MOV 19	15
	Miscellaneous	NEI 04-10	Risk-Informed Method for Control of Surveillance	1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Procedures		Frequencies	
		STI-JF-17-003	Surveillance Test Interval Evaluation Form, dated 9/10/2021	3
		LS-AA-104-1001	50.59 Evaluation	4
		LS-AA-107-1001	Change Review/Approval	Attachment 3
		LS-AA-107-1001	Preparer Checklist	Attachment 2
		LS-AA-107-1001	Change Request Form for TRM-21-016, "TRM Appendix I Change for SR 3.3.1.1.8, Function 5 (MISV 85%), Attachment 1	7
		ST-1L	Main Turbine Control Valve Instrument Channel and Valve Operability Check	37
		ST-4E	HPCI and SGT Logic System Functional and Simulated Automatic Actuation Test	60
	ST-9BB	EDG B and D Full Load Test and ESW Pump Operability Test	20	
71151	Work Orders	4895219		
	Corrective Action Documents Resulting from Inspection	04466864		
		04466867		
	Miscellaneous	JF-MSPI-001	James A. FitzPatrick Probabilistic Risk Assessment Reactor Oversight Program MSPI Bases Document	1
71152	Corrective Action Documents	00223045		
		04381539		
		04388425		
		04406839		
		04451723		
		04451748		
		CR-JAF-2009-04510		
		CR-JAF-2010-08309		
		CR-JAF-2015-03938		
		CR-JAF-2016-		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		01472		
	Engineering Changes	64329	Operating of the RHR Pump Motor within the Service Factor Region and Extent of Condition	0
		69297	Operation of the RHR Pump Motor within the Service Factor Region through the End of the Renewed Operating License and Extent of Condition - CR-JAF-2016-01472	0
	Miscellaneous	IEEE Standard 95-2002	IEEE Recommended Practice for Insulation Testing of AC Electric Machinery (2300V and Above) with High Direct Voltage	04/12/2002
		JAF-RPT-07-00006	Maintenance Rule Structural Monitoring Report	6
		JAF-RPT-13-00005	RHR and CS Pump Motor EQ Life Extension Study	0
	Procedures	EN-DC-150	Conditions Monitoring of Maintenance Rule Structures	6
		ER-AA-300-150	Cable Condition Monitoring Program	6
		MA-AA-716-210-1002	Exelon Motor Maintenance Logic Tree	6
		MA-AA-723-330	Electrical Testing of AC Motors Using Baker Instrument Advanced Winding Analyzer	6
		PI-AA-125	Corrective Action Program (CAP) Procedure	7
		PI-AA-125-1003	Corrective Action Program Evaluation Manual	6
	Work Orders	00223045		
		04716072		
		052025091		