UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE RD, STE 102
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

August 10, 2022

David P. Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO)
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – INTEGRATED INSPECTION REPORT 05000333/2022002

Dear David Rhoades:

On June 30, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at James A. FitzPatrick Nuclear Power Plant. On July 28, 2022, the NRC inspectors discussed the results of this inspection with Tim Peter, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

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

If you contest the violation or the significance or severity of the violation 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 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

Digitally signed by Erin E. Carfang
Date: 2022.08.10 07:28:18 -04'00'

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

Docket No. 05000333
License No. DPR-59

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – INTEGRATED INSPECTION REPORT 05000333/2022002 DATED AUGUST 10, 2022

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000333
License Number:	DPR-59
Report Number:	05000333/2022002
Enterprise Identifier:	I-2022-002-0032
Licensee:	Constellation Energy Generation, LLC
Facility:	James A. FitzPatrick Nuclear Power Plant
Location:	Oswego, NY
Inspection Dates:	April 1, 2022 to June 30, 2022
Inspectors:	Eric D. Miller, Senior Resident Inspector J. England, Resident Inspector H. Anagnostopoulos, Senior Health Physicist S. Elkhiamy, Operations Engineer B. Fuller, Senior Operations Engineer S. Haney, Senior Project Engineer J. Hawkins, Senior Project Engineer Eric C. Miller, Reactor Inspector B. Sienel, Resident 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

Failure to Identify and Correct Condensate Accumulation in the HPCI System			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000333/2022002-01 Open/Closed	[H.13] - Consistent Process	71111.15
A self-revealed Green finding and associated non-cited violation (NCV) of Criterion XVI was identified for Constellation's failure to identify and correct a condition adverse to quality associated with condensate accumulation in the high-pressure coolant injection (HPCI) system. As a result, when the system's condensate removal pump failed to remove condensate that accumulated from a leaking steam supply valve (23MOV-14) due to a failed logic relay, water filled the turbine casing greater than 50 percent, which resulted in a challenge to HPCI system operability on April 29, 2022.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000333/2021-002-00	LER 2021-002-00, Automatic High-Pressure Coolant Injection (HPCI) System Function Prevented by Control Circuit Relay Failure	71153	Closed
LER	05000333/2021-003-00	LER 2021-003-00, Air Solenoid Valve Condition Results in Main Steam Isolation Valve (MSIV) Fast Closure Test Failure	71153	Closed

PLANT STATUS

FitzPatrick began the inspection period at rated thermal power. On May 7, 2022, operators reduced reactor power to 73 percent to perform a control rod pattern adjustment. On May 8, 2022, operators restored reactor power to rated thermal power. On June 11, 2022, operators reduced reactor power to 73 percent to perform a control rod pattern adjustment, turbine valve testing, and individual control rod scram time testing. On June 12, 2022, operators restored reactor power to rated thermal power. 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,” 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

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal hot temperatures for the 115-kilovolt and 345-kilovolt switchyard, and the 'A' and 'B' 125 volts direct current battery rooms on June 3, 2022.

71111.04 - Equipment Alignment

Partial Walkdown (IP Section 03.01) (6 Samples)

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

(1) Process radiation monitors on April 1, 2022
(2) 'A' residual heat removal (RHR) and RHR service water systems during planned maintenance on the 'B' RHR system on April 5, 2022
(3) Standby liquid control system on May 3, 2022
(4) Reactor core isolation cooling on May 6, 2022
(5) 'A' and 'C' emergency diesel generators on June 7, 2022
(6) 'A' standby gas treatment system on June 23, 2022

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

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

(1) High pressure coolant injection system on June 15, 2022

71111.05 - Fire Protection

Fire Area Walkdown and Inspection (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) Emergency diesel generator, elevation 272', fire areas 5 and 6/fire zones EG-1 through EG-6, on April 8, 2022
(2) Battery room complex, fire area/zone III/BR-1, BR-2, IV/BR-3, BR-4, XVI/BR-5, on April 12, 2022
(3) Reactor building, elevation 369', fire area/fire zone IX/RB-1A, on May 5, 2022
(4) Reactor building, elevation 326', fire area/zone IX/RB-1A, on May 6, 2022
(5) Reactor building, elevation 344', fire area/zone IX/RB-1A, on June 10, 2022

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) Emergency diesel generators and switchgear rooms on June 23, 2022

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

(1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered from April to May 2022.

71111.11B - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Requalification Program (IP Section 03.04) (1 Sample)

(1) Biennial Requalification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examination administered during 2021.

Annual Requalification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Requalification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Requalification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

Problem Identification and Resolution

The inspectors evaluated the licensee's ability to identify and resolve problems associated with licensed operator performance.

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 reactor power reduction and rod pattern adjustment on May 7, 2022 and May 8, 2022; and during turbine valve testing and scram time testing on June 11, 2022.

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

(1) The inspectors observed operator requalification training on Risk Informed Completion Time implementation on June 9, 2022.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

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

(1) Emergency lighting batteries on May 2, 2022

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management (IP Section 03.01) (8 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 the 'B' residual heat removal system on April 4, 2022
(2) 'A' emergency service water pump replacement on April 11, 2022
(3) 115-kilovolt power distribution system during a low voltage condition on April 18, 2022
(4) 'B' residual heat removal pump minimum flow valve 10MOV-16B failure to close on April 25, 2022
(5) Failure of HPCI relay 23A-K31 on April 29, 2022
(6) Elevated risk during 'A' residual heat removal system planned valve and motor maintenance on May 16, 2022
(7) Elevated risk during planned HPCI pressure control valve replacement on May 25, 2022
(8) Elevated risk during planned offsite 115-kilovolt maintenance on June 23, 2022

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

(1) 72MOD-104B 'B' battery room ventilation system following access hatch found open on April 13, 2022
(2) 10MOV-16B 'B' residual heat removal pump minimum flow valve following failure to close on April 26, 2022
(3) HPCI system following water intrusion to the turbine casing on April 28, 2022
(4) 71SB-2 'B' 125 volts direct current station battery cell 5 post nut crack on June 15, 2022

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

(1) 71SB-2 'B' 125 volts direct current station battery cell 22 cracked lid repair on June 16, 2022

71111.19 - Post-Maintenance Testing

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

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

(1) ST-8Q emergency service water pump 'A' following replacement, on April 12, 2022
(2) 23A-K31 HPCI gland seal condenser high level alarm relay following replacement on May 3, 2022
(3) 02MTU-222D main steam tunnel high temperature master trip unit 'D' following maintenance on May 24, 2022
(4) 23PCV-12 HPCI trip system pressure control valve following replacement on May 25, 2022
(5) 'B' 125 volts direct current station battery following cell 22 crack repair on June 6, 2022
(6) 'A' residual heat removal keep fill pump, 10P-2A, on June 7, 2022

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance testing activities to verify system operability and/or functionality:

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

(1) ST-76C, West Diesel Fire Pump 76P-1 Operational Check, on May 11, 2022
(2) ST-29AA, Manual Scram and RPS Channel Test Switch Functional Test (Division A), on May 20, 2022
(3) ISP-22-2, HPCI System Loop Low Flow Bypass Valve Instruments, on May 25, 2022

Inservice Testing (IP Section 03.01) (1 Sample)

(1) ST-4N, HPCI Quick-Start, Inservice, and Transient Monitoring Test (IST), on May 26, 2022

RADIATION SAFETY

71124.05 - Radiation Monitoring Instrumentation

Walkdowns and Observations (IP Section 03.01) (8 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

(1) AMS-4 #00913065
(2) Telepole #078147
(3) RO-20A #0021928

(4) PM-12 #0090729
(5) Chemistry hot laboratory liquid scintillation counter
(6) Chemistry hot laboratory iSolo bench counter
(7) Chemistry hot laboratory area radiation monitor
(8) Argos personnel contamination monitors at the main control point (4)

Calibration and Testing Program (IP Section 03.02) (13 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

(1) AMS-4 #00913065
(2) Mirion Technologies Fastscan Whole Body Counter (2020)
(3) Telepole #078147
(4) RO-20A #0021928
(5) PM-12 #0090729
(6) Chemistry hot laboratory Perkin Elmer 5110 Liquid Scintillation Counter
(7) Mirion Technologies Fastscan Whole Body Counter (2021)
(8) AMS-4 #00913070
(9) AMS-4 #00901330
(10) Telepole #074970
(11) Eberline L-177 #0020868
(12) RO-20A #079224
(13) RO-20A #0019406

Effluent Monitoring Calibration and Testing Program (IP Sample 03.03) (2 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

(1) 17RM-351 Service Water Radiation Monitor
(2) 17RM-456B Refuel Floor Ventilation Exhaust Radiation Monitor 'B'

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

BI01: Reactor Coolant System (RCS) Specific Activity (IP Section 02.10) (1 Sample)

(1) January 1, 2021 through December 31, 2021

BI02: RCS Leak Rate (IP Section 02.11) (1 Sample)

(1) April 1, 2021 through December 31, 2021

71152S - Semiannual Trend Problem Identification and Resolution

Semiannual Trend Review (Section 03.02) (1 Sample)

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

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (2 Samples)

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

(1) LER 05000333-2021-003-00, Air Solenoid Valve Condition Results in Main Steam Isolation Valve (MSIV) Fast Closure Test Failure. The inspection conclusions associated with this LER are documented in inspection report 05000333/2022001 Section 71152A. This LER is closed.
(2) LER 05000333-2021-002-00, Automatic High Pressure Coolant Injection (HPCI) System Function Prevented by Control Circuit Relay Failure. The inspection conclusions associated with this LER are documented in Section 71152S of this report. This LER is closed.

INSPECTION RESULTS

<table>
<tr><td colspan="4">Failure to Identify and Correct Condensate Accumulation in the HPCI System</td></tr>
<tr><td>Cornerstone</td><td>Significance</td><td>Cross-Cutting Aspect</td><td>Report Section</td></tr>
<tr><td>Mitigating Systems</td><td>Green
NCV 05000333/2022002-01
Open/Closed</td><td>[H.13] - Consistent Process</td><td>71111.15</td></tr>
<tr><td colspan="4">A self-revealed Green finding and associated non-cited violation (NCV) of Criterion XVI was identified for Constellation's failure to identify and correct a condition adverse to quality associated with condensate accumulation in the HPCI system. As a result, when the system's condensate removal pump failed to remove condensate that accumulated from a leaking steam supply valve (23MOV-14) due to a failed logic relay, water filled the turbine casing greater than 50 percent, which resulted in a challenge to system operability on April 29, 2022.</td></tr>
<tr><td colspan="4">Description: The HPCI steam supply admission valve (23MOV-14) experienced leakage past the closed valve since October 2020. This resulted in Constellation establishing an adverse condition monitoring plan (ACMP) to confirm system response and determine when action is needed. As part of the ACMP, operators monitor turbine casing temperatures, assess oil quality, and ensure condensate is draining properly. On April 28, 2022, operators received an alarm at 10:45 PM in the main control room for a HPCI exhaust drain pot high water level condition. By design, condensate would typically be removed from the HPCI system as it accumulates in the HPCI exhaust drain pot. From the exhaust drain pot, it would flow to the gland seal condenser, which contains a logic relay which starts a condensate removal pump to drain the condenser upon high water level in the gland seal condenser. Logic relay (23A-K31) had failed, preventing actuation of the condensate removal pump, allowing condensate water to fill the HPCI exhaust drain pot.

Operators' immediate investigation in the field included observing the HPCI exhaust drain pot air operated discharge valve (23AOV-54) movement and obtaining thermal camera images of the level switches for both the drain pot (23LS-98) and gland seal condenser (23LS-100). Because the ACMP actions were not symptom based and were overly specific, operators incorrectly determined the system was draining properly and believed it was a faulty</td></tr>
</table>

indication from the HPCI exhaust drain pot level switch. As a result, condensate continued to accumulate in the HPCI pump turbine casing.

On April 29, 2022, FitzPatrick staff conducted further investigation and determined the need to perform manual draining of the HPCI exhaust drain pot. At 12:51 PM, operators discovered water in the HPCI turbine case was approximately 6' 6" above the floor level and was flowing from the HPCI turbine case gland seals. This was an indication that the HPCI turbine casing was at least 50 percent full of water at that time. The vendor manual alerts owners of operating experience with condensate carryover that may cause the steam exhaust rupture disk to fail, damage to occur from the water slug upon HPCI system startup, and possible overspeed of the turbine during recovery from the initial removal of water. Following declaration of being inoperable and unavailable, Constellation conducted extensive evaluation to understand the impact on system operability.

Corrective Actions: Operators took immediate action to manually drain the condensate from the system upon identification of the high water level in the turbine casing. On May 3, 2022, the station replaced the failed logic relay and successfully restored the condensate removal system to automatic operation. FitzPatrick staff also performed a human performance review board to identify performance gaps that allowed the event to occur. The station also completed a revision to the adverse condition monitoring plan to ensure its actions accounted for all parameters and thresholds and ensure they are symptom based.

Corrective Action References: IR 04496616

Performance Assessment:

Performance Deficiency: Constellation failed to identify and correct a condition adverse to quality associated with condensate accumulation in the HPCI system. Specifically, because ACMP actions were not symptom based and were overly specific, operators incorrectly determined the condensate removal system was draining properly, allowing condensate to accumulate in the HPCI pump turbine casing.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment 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, Constellation's failure to identify and correct the condensate accumulation in the HPCI system resulted in high water level in the HPCI turbine casing and a challenge to system operability.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors performed a review of this finding using the guidance provided in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," and determined this finding is of very low safety significance (Green) because the questions in Exhibit 2, Section A were answered No.

Cross-Cutting Aspect: H.13 - Consistent Process: Individuals use a consistent, systematic approach to make decisions. Risk insights are incorporated as appropriate. Specifically, the ACMP for HPCI steam supply valve leakage did not establish a well-defined decision-making process, because the actions directed in response to a HPCI exhaust drain pot high water level condition were not symptom based and were overly specific.

Enforcement:

Violation: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Contrary to the above, from April 28, 2022 through April 29, 2022, Constellation failed to identify and correct a condition adverse to quality associated with condensate accumulation in the HPCI system. As a result, the HPCI turbine case became filled with water up to the gland seals (50 percent), rendering the system inoperable. Upon recognition of the water leaking from the gland seals, operators took action to drain the condensate from the system.

As a result, the HPCI turbine case became filled with water up to the gland seals (50%), which challenged system operability. Upon recognition of the water leaking from the gland seals, operators took action to drain the condensate from the system.

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

Minor Performance Deficiency	71152S

Minor Performance Deficiency: The inspectors evaluated a sample of issues and events that occurred over the first and second quarters of 2022. 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 Constellation staff for potential trends at a low threshold and resolved within the scope of the corrective action program.

The inspectors identified a trend associated with the corrective action program causal evaluations not being thorough and adequately identifying the likely cause. Each of these involved the completion of a work group evaluation in accordance with PI-AA-125, "Corrective Action Program (CAP) Procedure," Revision 8, Section 4.3.5 which requires identification of cause, extent of condition, and corrective action to address the condition adverse to quality. In each of the examples below, the requirements of Section 4.3.5 were not met. Examples include:

- On March 1, 2022, IR 04481502 documented a failure of the 'A' core spray pump to start due to high resistance on the control room switch. Following Exelon PowerLab review and station cause evaluation, a conclusion could not be made regarding the oxidation and sulfidation effects on the switch and considered operator action as another possible cause. Contrary to PI-AA-125 Section 4.3.5, per Assignment 3 of IR 04481502, Exelon PowerLab did not identify a cause and no extent of condition was assigned. The PM strategy was determined to be acceptable, which is run-to-maintenance. No other action beyond switch replacement is being pursued.
- On November 21, 2021, IR 04461845 documented a failure of the HPCI injection valve to open during logic system testing for reactor vessel low-water level. Exelon PowerLabs determined the associated relay failed due to a dimensional tolerance issue. The inspectors performed an assessment of the failure mode determined by the third-party vendor, Exelon PowerLabs. The inspectors observed a similar spare relay. Following review of the relay the inspector determined that a valid cause may not have been identified through the corrective action program evaluation process. However, Constellation performed acceptance testing of the replacement relay satisfactorily providing reasonable assurance of operability.

- On January 14, 2022, Exelon submitted LER 05000333-2021-003, "Air Solenoid Valve Condition Results in Main Steam Isolation Valve (MSIV) Fast Closure Test Failure." Issue Reports 04369253 and 04369255 were associated with this failure. Following inspector review, it was determined that FitzPatrick was not able to draw adequate conclusion to the cause of the failure, but attributed potential causes such as foreign material and maintenance practices. Inspector conclusions are documented in Inspection Report 05000333/2022001.

Additionally, a weakness was identified with a corrective action program evaluation of an equipment reliability trend identified by the NRC in IR 04473958. Specifically, Constellation staff determined there were no common issues. The inspectors determined the assessment did not include potential organizational or equipment reliability common issues such as preventive maintenance strategy for components being effective maintenance practices, adequacy of maintenance procedures, or the effect of aging of equipment in accordance with PI-AA-125-1006, "Investigation Techniques," Revision 6, Attachment 15. Since this product was issued, the following additional failures of safety-related equipment that occurred, indicating a continued challenge with equipment reliability:

- 'A' core spray pump failing to start due to control room switch high contact resistance during a planned surveillance test
- 'B' residual heat removal low flow bypass valve failing to remain closed during testing
- HPCI turbine casing water accumulation following a high water level alarm relay failure

Based on the overall results of the semi-annual trend review, the inspectors determined that Constellation 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.

EXIT MEETINGS AND DEBRIEFS

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

- On April 7, 2022, the inspectors presented the radiation monitoring instrumentation inspection results to Tim Peter, Site Vice President, and other members of the licensee staff.
- On July 28, 2022, the inspectors presented the integrated inspection results to Tim Peter, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	WC-JF-107-1000	Seasonal Readiness T&RM for JAF	4
71111.01	Work Orders	05155498		
71111.04	Corrective Action Documents	04432253		
71111.04	Corrective Action Documents	04476529		
71111.04	Corrective Action Documents	04502173		
71111.04	Corrective Action Documents	04504453		
71111.04	Corrective Action Documents Resulting from Inspection	04496005		
71111.04	Drawings	FM-20A	Flow Diagram Residual Heat Removal System 10	73
71111.04	Drawings	FM-20B	Flow Diagram Residual Heat Removal System 10	73
71111.04	Drawings	FM-21A	Flow Diagram Standby Liquid Control System	37
71111.04	Drawings	FM-22A	Flow Diagram Reactor Core Isolation Cooling System 13	57
71111.04	Drawings	FM-25A	Flow Diagram High Pressure Coolant Injection System 23	75
71111.04	Drawings	FM-46B	Flow Diagram Emergency Service Water	58
71111.04	Miscellaneous		Adverse Condition Monitoring Plan for 23MOV-14 Seat Leakage	05/04/2022
71111.04	Procedures	FM-25B	Flow Diagram HPCI Lube Oil System 23	34
71111.04	Procedures	JAF-NE-09-00001	JAF Probabilistic Safety Assessment, Appendix C1 - Internal Flooding Analysis	0
71111.04	Procedures	OP-13	Residual Heat Removal System	100
71111.04	Procedures	OP-15	High Pressure Coolant Injection	69
71111.04	Procedures	OP-19	Reactor Core Isolation Cooling	57
71111.04	Procedures	OP-20	Standby Gas Treatment System	42
71111.04	Procedures	OP-21	Emergency Service Water (ESW)	42
71111.04	Procedures	OP-22	Diesel Generator Emergency Power	71
71111.04	Procedures	OP-31	Process Radiation Monitoring System	41

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Procedures	OP-60	Diesel Generator Room Ventilation	10
71111.04	Procedures	OP-JF-112-101-F-01	Panel Check (>25% power)	2
71111.04	Procedures	ST-40K	Periodic Tests and Inspections, Completed June 12, 2022	55
71111.04	Procedures	ST-9AA	EDG System A Fuel/Lube Oil Monthly Test	009
71111.04	Work Orders	05166535		
71111.04	Work Orders	05176184		
71111.05	Corrective Action Documents Resulting from Inspection	04492887		
71111.05	Corrective Action Documents Resulting from Inspection	04492914		
71111.05	Corrective Action Documents Resulting from Inspection	04494307		
71111.05	Fire Plans	PFP-PWR04	Battery Room Complex, Fire Area/Zone III/BR-1, BR-2, IV/BR-3, BR-4, XVI/BR-5	2
71111.05	Fire Plans	PFP-PWR26	Reactor Building / Elev. 326' Fire Area / Zone IX/RB-1A	5
71111.05	Fire Plans	PFP-PWR27	Reactor Building/Elev. 344' Fire Area/Zone IX/RB-1A	4
71111.05	Fire Plans	PFP-PWR28	Reactor Building Elevation 369’ Fire Area/Fire Zone IX/RB-1A	8
71111.05	Fire Plans	PFP-PWR31	Emergency Diesel Generator Spaces - South/Elev. 272' Fire Area/Zone V/EG-1, EG-2, EG-5	5
71111.05	Fire Plans	PFP-PWR32	Emergency Diesel Generator Spaces - North/Elev. 272' Fire Area/Zone VI/EG-3, EG-4, EG-6	5
71111.05	Miscellaneous	JAF-ANAL-FPS-02269	Fire Hazard Analysis James A. FitzPatrick Nuclear Power Plant	October 1985
71111.05	Procedures	FPP-3.56	Portable Fire Extinguisher Inspection Procedure	7
71111.05	Procedures	OP-AA-201-007	Fire Protection System Impairment Control	1
71111.05	Procedures	OP-AA-201-008	Pre-Fire Plan Manual	5

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.05	Procedures	OP-AA-201-009	Control of Transient Combustible Material	27
71111.05	Work Orders	05213803		
71111.05	Work Orders	05222995		
71111.05	Work Orders	05232567		
71111.05	Work Orders	05239524		
71111.12	Corrective Action Documents	04308320		
71111.12	Corrective Action Documents	04430233		
71111.12	Corrective Action Documents	04459079		
71111.12	Procedures	ER-AA-320-1004	Maintenance Rule 18-10 - Performance Monitoring and Dispositioning between (a)(1) and (a)(2)	1
71111.12	Procedures	MST-076.05	Exide/Lightguard F-100 Emergency Light Surveillance Test	31
71111.13	Corrective Action Documents	04496433		
71111.13	Corrective Action Documents	04496616		
71111.13	Corrective Action Documents	04497175		
71111.13	Procedures	AOP-72	115 KV Grid Loss, Instability, or Degradation	14
71111.13	Procedures	OP-44	115 KV System	28
71111.13	Procedures	OP-AA-108-117	Protected Equipment Program	7
71111.13	Procedures	ST-8Q	Testing of the Emergency Service Water System (IST)	56
71111.13	Procedures	ST-9W	Electrical Lineup and Power Verification	16
71111.13	Work Orders	04850166-09		
71111.13	Work Orders	05254332-1		
71111.15	Corrective Action Documents	04492914		
71111.15	Corrective Action Documents	04495410		
71111.15	Corrective Action Documents	04496616		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.15	Corrective Action Documents	04505316		
71111.15	Drawings	FB-45C	Flow Diagram Administration and Control Room Heating Vent and Air Conditioning System 72	24
71111.15	Procedures	CC-AA-201	Plant Barrier Control Program	14
71111.15	Procedures	ST-19AB	Battery Room B Ventilation Equipment Operability Test	2
71111.18	Corrective Action Documents	04499337		
71111.18	Corrective Action Documents	04499340		
71111.18	Corrective Action Documents	04505715		
71111.18	Engineering Changes	636789	Repair of Cracks Discovered in 71SB-2 125 V Station Battery 'B'	0
71111.19	Corrective Action Documents	04483150		
71111.19	Corrective Action Documents	04486274		
71111.19	Corrective Action Documents	04499337		
71111.19	Corrective Action Documents	04499340		
71111.19	Corrective Action Documents	04500293		
71111.19	Corrective Action Documents	04501693		
71111.19	Corrective Action Documents	04502001		
71111.19	Corrective Action Documents	04503378		
71111.19	Corrective Action Documents	05180737		
71111.19	Procedures	ISP-100D-PCIS	PCIS Instrument Functional Test/Calibration (ATTS)**	18
71111.19	Procedures	OP-15	High Pressure Coolant Injection	69

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.19	Procedures	ST-8Q	Testing of the Emergency Service Water System (IST)	56
71111.19	Work Orders	04850166		
71111.19	Work Orders	04972429		
71111.19	Work Orders	05254332		
71111.19	Work Orders	05260279		
71111.19	Work Orders	5090036		
71111.19	Work Orders	5203694		
71111.19	Work Orders	5238521		
71111.22	Procedures	ISP-22-2	HPCI System Loop Low Flow Bypass Valve Instruments	10
71111.22	Procedures	ST-29AA	Manual Scram and RPS Channel Test Switch Functional Test (Division A)	3
71111.22	Procedures	ST-4N	HPCI Quick-Start, Inservice, and Transient Monitoring Test (IST)	80
71111.22	Procedures	ST-76C	West Diesel Fire Pump 76P-1 Operational Check	25
71151	Corrective Action Documents	04498431		
71151	Procedures	LS-AA-201	Monthly Data Elements for NRC ROP Indicator - RCS Specific Activity	5
71151	Procedures	ST-40D	Daily Surveillance and Channel Check	125
71153	Miscellaneous	NRC Inspection Procedure 03.03	Personnel Performance	