



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200  
ATLANTA, GEORGIA 30303-1200

**February 14, 2022**

Mr. John A. Krakuszeski  
Site Vice President  
Duke Energy Progress, LLC  
8470 River Road SE  
M/C BNP04  
Southport, NC 28461-0429

**SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT – INTEGRATED INSPECTION  
REPORT 05000324/2021004 AND 05000325/2021004**

Dear Mr. Krakuszeski:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Brunswick Steam Electric Plant. On January 27, 2022, the NRC inspectors discussed the results of this inspection with you 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 II; the Director, Office of Enforcement; and the NRC Resident Inspector at Brunswick Steam Electric 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 II; and the NRC Resident Inspector at Brunswick Steam Electric 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,

**/RA/**

Stewart N. Bailey, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Docket Nos. 05000324 and 05000325  
License Nos. DPR-62 and DPR-71

Enclosure:  
As stated

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SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT – INTEGRATED INSPECTION  
REPORT 05000324/2021004 AND 05000325/2021004 Dated February 14, 2022

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

Docket Numbers: 05000324 and 05000325

License Numbers: DPR-62 and DPR-71

Report Numbers: 05000324/2021004 and 05000325/2021004

Enterprise Identifier: I-2021-004-0013

Licensee: Duke Energy Progress, LLC

Facility: Brunswick Steam Electric Plant

Location: Southport, NC

Inspection Dates: October 01, 2021 to December 31, 2021

Inspectors: G. Smith, Senior Resident Inspector  
C. Curran, Project Engineer  
C. Fontana, Emergency Preparedness Inspector  
S. Sanchez, Senior Emergency Preparedness Inspector  
M. Schwieg, Senior Reactor Inspector  
J. Walker, Emergency Response Inspector

Approved By: Stewart N. Bailey, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Brunswick Steam Electric 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 Promptly Analyze Laboratory Surveillance Data Results in a Condition Prohibited by Technical Specifications			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000325,05000324/2021004-01 Open/Closed	[H.1] - Resources	71152
A self-revealed Green finding and associated Non-cited Violation (NCV) of Unit 1 and Unit 2 Technical Specification (TS) 3.7.3 was identified when the licensee failed to restore the 'B' train of control room emergency ventilation (CREV) to an operable status within the allowed outage time. Specifically, the Unit 2 'B' CREV train was inoperable for appropriately 17 days while TS Limiting Condition for Operation (LCO) 3.7.3 required both units to be placed in Mode 3 within 12 hours following 7 days of inoperability.			

### Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000325,324/2020-005-00	LER 2020-005-00 for Brunswick Steam Electric Plant (BSEP), Unit 1 Condition Prohibited by Technical Specifications due to Ventilation Charcoal Sample Lab Results.	71153	Closed

## PLANT STATUS

Unit 1 began the period at 100 percent (full) rated thermal power (RTP) and operated there until November 19, 2021, when power was reduced to 70 percent RTP for a planned control rod sequence exchange. Following the sequence exchange, as well as one follow on rod improvement, the unit was restored to full RTP on November 23. The unit continued to operate at full power until December 18, when the turbine generator was taken offline to repair a 250F "hot spot" on the main generator's 'B' phase no-load disconnect (NLD). The elevated temperature was discovered during a routine thermography exam. During the repairs, the reactor remained critical and in Mode 1 at 20 percent RTP. Following repairs to the NLD, the main generator was synched to the grid on December 20 and power ascension was commenced. Full power was reached on December 24, following two rod improvements, and the unit continued to operate at full power for the remainder of the inspection period.

Unit 2 began the period at 100 percent RTP and operated there until December 3, 2021, when power was reduced to 70 percent RTP for a planned control rod sequence exchange and turbine valve testing. Following the testing and sequence exchange, as well as two follow on rod improvements, the unit was restored to full RTP on December 7, where the unit continued to operate until December 14 when power was reduced to 95 percent RTP in order to replace resin in a condensate ion exchanger. Following replacement of the resin, the unit was restored to full RTP on December 16 where it continued to operate 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

### 71111.01 - Adverse Weather Protection

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

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures for the following systems:
  - standby liquid control (SLC) system
  - emergency diesel generators
  - service water system.

#### 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) emergency diesel generator No.1 (EDG-1) following a maintenance outage on October 25, 2021
- (2) Unit 2 'A' residual heat removal (RHR) train while the 'B' RHR train was out-of-service (OOS) for a planned outage on November 19
- (3) Unit 2 'B' RHR train while the 'A' RHR train was OOS for a planned outage on December 9.

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the safety-related Unit 2 nuclear service water system on November 18, 2021.

#### 71111.05 - Fire Protection

##### Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 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) supplemental EDG platform on October 12, 2021
- (2) transformer yard area on October 12, 2021
- (3) modular chiller plant on October 13, 2021
- (4) augmented Off-Gas (AOG) Building on October 14, 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) Unit 2 Reactor Building on October 25, 2021

#### 71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

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

- (1) The licensee completed the annual requalification operating examinations required to be administered to all licensed operators in accordance with Title 10 of the *Code of Federal Regulations* 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." During the week of November 22, 2021, the inspector performed an in-office review of the overall pass/fail results of the individual operating examinations, the crew simulator operating examinations, and the biennial written

examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.03, "Requalification Examination Results," of IP 71111.11.

The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam completed on October 1, 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 and evaluated licensed operator performance in the control room during a down-power to 70 percent RTP for control rod sequence exchange and valve testing on November 19, 2021.

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

- (1) The inspectors observed and evaluated two separate simulator exams on November 3 and November 10, 2021. Both simulator exams were part of the licensed operator continuing training Cycle 5. Both scenarios consisted of a reactor building ventilation radiation monitor failure, a loss of conventional service water, and an anticipated transient without scram with main steam isolation valves closure.

#### 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) Unit 2 experienced forced outages as a result of two separate failures of the main generator no-load disconnects in September and October of 2020
- (2) Unavailability hours for Unit 2 station auxiliary transformer was exceeded in March 2021.

#### 71111.13 - Maintenance Risk Assessments and Emergent Work Control

##### Risk Assessment and Management Sample (IP Section 03.01) (1 Sample)

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 site risk due to service water bay cleaning conducted from October 19–November 19, 2021



## 71111.15 - Operability Determinations and Functionality Assessments

### Operability Determination or Functionality Assessment (IP Section 03.01) (6 Samples)

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

- (1) reactor water cleanup system inlet line inboard isolation valve failed local leak rate testing (NCR 2261604)
- (2) missed leakage check for standby liquid control 'B' train relief valve (CR 2382978)
- (3) 10CFR50.46 ATRIUM 11 PCT LOCA Impact for Brunswick (NCR 2381141)
- (4) EDG-1 Starting Air Receiver Possible Air leak (NCR 2402260)
- (5) NOS Audit: Battery Testing Concerns (NCR 2402631)
- (6) Improper response to auto voltage adjustment during EDG-4 run (NCR 2409059).

## 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) addition of EDG-4 synchronization check relay (EC 408566).

## 71111.19 - Post-Maintenance Testing

### Post-Maintenance Test Sample (IP Section 03.01) (8 Samples)

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

- (1) 0LP-UI006B, "DG Output Ammeter Transducer Loop Calibration," Rev. 4, following replacement of EDG-1 output ammeter in accordance with (IAW) work order (WO) 20462982-01
- (2) 0PT-09.2, "HPCI System Operability Test," Rev. 153, following preventative maintenance (PM) on an overload relay associated with motor-operated valve (1-E41-F001) IAW WO 20293876-01
- (3) 0PT-09.2, "HPCI System Operability Test," Rev. 153, following a mechanical and lubrication PM on a motor-operated valve (1-E41-F004) IAW WO 20390296-01
- (4) 0PT-09.2, "HPCI System Operability Test," Rev. 153, following a mechanical and lubrication PM on a motor-operated valve (1-E41-F001) IAW WO 20469935-01
- (5) 0PT-09.2, "HPCI System Operability Test," Rev. 153, following a 125 Volt circuit breaker PM associated with motor-operated valve (1-E41-F001) IAW WO 20432108-01
- (6) 0PT-09.2, "HPCI System Operability Test," Rev. 153, following a 125 volt circuit breaker PM associated with motor-operated valve (1-E41-F004) IAW WO 20443346-01
- (7) 0PT-12.2D, "No.4 Diesel Generator Monthly Load Test," Rev. 126, following replacement of a relay on EDG-4 IAW WO 20508199
- (8) 0PT-12.2C, "No.3 Diesel Generator Monthly Load Test," Rev. 121, following performance of 72-month PM IAW WO 20388524.

#### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

##### Surveillance Tests (other) (IP Section 03.01) (4 Samples)

- (1) 1MST-HPC127Q, "HPCI and RCIC CST Low Water Level Instrument Channel Cal," Rev 10, completed on October 6, 2021
- (2) 0MST-CV23R, "Main Steam Line Radiation Monitor Detector Calibration," Rev. 40, completed on December 2, 2021
- (3) 0OP-39 EDG-3 12hr run completed on December 5, 2021
- (4) 0MST-PCIS29Q "PCIS Rx Water LL2 AND LL3 DIV II Trip Unit Channel Cal and Functional Test," Rev. 10, completed on December 13, 2021.

##### Inservice Testing (IP Section 03.01) (3 Samples)

- (1) 0PT-09.2, Unit 1 "HPCI Operability Test," Rev. 153, completed on November 3, 2021
- (2) 0PT-10.1.1, Unit 2 "RCIC IST," completed on November 12, 2021
- (3) 0PT-08.2.2C, "LPCI/RHR System Operability Test – Loop A," Rev. 97, completed on December 15, 2021.

##### FLEX Testing (IP Section 03.02) (1 Sample)

- (1) 0PT-12.27, Rev. 5, "Flex Diesel Generator 1 and 2 Test Procedure," Rev 5, completed on November 25, 2021.

#### 71114.02 - Alert and Notification System Testing

##### Inspection Review (IP Section 02.01-02.04) (1 Sample)

- (1) The inspectors evaluated the maintenance and testing of the alert and notification system during the week of November 15, 2021.

#### 71114.03 - Emergency Response Organization Staffing and Augmentation System

##### Inspection Review (IP Section 02.01-02.02) (1 Sample)

- (1) The inspectors evaluated readiness of the Emergency Response Organization during the week of November 15, 2021.

#### 71114.04 - Emergency Action Level and Emergency Plan Changes

##### Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated submitted Emergency Action Level and Emergency Plan changes during the week of November 15, 2021. This evaluation does not constitute NRC approval.

#### 71114.05 - Maintenance of Emergency Preparedness

##### Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

- (1) The inspectors evaluated the maintenance of the Emergency Preparedness Program during the week of November 15, 2021.

#### **OTHER ACTIVITIES – BASELINE**

##### 71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

##### MS07: High Pressure Injection Systems (IP Section 02.06) (2 Samples)

- (1) Unit 1 (October 1, 2020–September 30, 2021)
- (2) Unit 2 (October 1, 2020–September 30, 2021)

##### MS08: Heat Removal Systems (IP Section 02.07) (2 Samples)

- (1) Unit 1 (October 1, 2020–September 30, 2021)
- (2) Unit 2 (October 1, 2020–September 30, 2021)

##### MS09: Residual Heat Removal Systems (IP Section 02.08) (2 Samples)

- (1) Unit 1 (October 1, 2020–September 30, 2021)
- (2) Unit 2 (October 1, 2020–September 30, 2021)

##### EP01: Drill/Exercise Performance (DEP) Sample (IP Section 02.12) (1 Sample)

- (1) Unit 1 (October 1, 2020–September 30, 2021)  
Unit 2 (October 1, 2020–September 30, 2021)

##### EP02: Emergency Response Organization (ERO) Drill Participation (IP Section 02.13) (1 Sample)

- (1) Unit 1 (October 1, 2020–September 30, 2021)  
Unit 2 (October 1, 2020–September 30, 2021)

##### EP03: Alert And Notification System (ANS) Reliability Sample (IP Section 02.14) (1 Sample)

- (1) Unit 1 (October 1, 2020–September 30, 2021)  
Unit 2 (October 1, 2020–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 in staffing issues that might be indicative of a more significant safety issue.

#### Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

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

- (1) NCR 2359462: Unit 2 'B' control room emergency ventilation (CREV) train OOS in excess of LCO action time.

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

##### Event Followup (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated the licensee's response to an inadvertent loss of the E3 4160-volt safety-related bus on December 6, 2021. This event resulted in an eight-hour notification to the NRC Headquarters Operation Officer (HOO) in accordance with (IAW) 10CFR50.72(b)(3)(iv)(A) due to several primary containment isolation actuations resulting from the loss of power. The inspectors subsequently evaluated this event IAW Management Directive (MD) 8.3 and determined that no follow-on inspection was necessary.

##### Event Report (IP Section 03.02) (1 Sample)

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

- (1) LER 05000325,324/2020-005-00, Condition Prohibited by Technical Specifications due to Ventilation Charcoal Laboratory Results (ADAMS Accession No. ML21021A366). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71152.

## **INSPECTION RESULTS**

Failure to Promptly Analyze Laboratory Surveillance Data Results in a Condition Prohibited by Technical Specifications			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000325,05000324/2021004-01 Open/Closed	[H.1] - Resources	71152
A self-revealed Green finding and associated Non-cited Violation (NCV) of Unit 1 and Unit 2 Technical Specification (TS) 3.7.3 was identified when the licensee failed to restore the 'B' train of control room emergency ventilation (CREV) to an operable status within the allowed outage time. Specifically, the Unit 2 'B' CREV train was inoperable for appropriately 17 days while TS Limiting Condition for Operation (LCO) 3.7.3 required both units to be placed in Mode 3 within 12 hours following 7 days of inoperability.			
<u>Description:</u> On November 11, 2020, a chemistry grab sample was obtained from the 2B CREV system charcoal absorber trays as part of a biennial filter surveillance. This sample was sent off to a remote laboratory (Nucon International) for analysis. At 1436 on November 25, the licensee declared the 2B CREV subsystem out-of-service (OOS) on both units, and entered 7-day TS LCO 3.7.3, when the licensee received notification that the			

charcoal sample obtained on November 11 had failed the acceptance criteria.

The vendor results, from the methyl iodide test performed on the charcoal, indicated an efficiency value of 92.956 percent while the acceptance criteria required greater than 95.26 percent. The inspectors noted that this failed test result was initially determined on November 14 by Nucon International. However, the results were not officially communicated to the control room operators until November 25, when the system was subsequently declared OOS. The licensee replaced the charcoal filter trays on November 28 and exited the LCO following operability testing.

The licensee's corrective action review of this incident determined that the failed charcoal filter test was deemed a condition prohibited by TS. This was based on a review of NUREG 1025 which included a discussion of a very similar example regarding the testing of charcoal filters (Section 3.2.2 example 7). The NUREG states, in part, "an Operation or Condition Prohibited by TS can exist even if the condition was not discovered until after the allowable time had elapsed and the condition was rectified immediately upon discovery. In this case, the LCO time is 7 days and the action time to be in Mode 3 is 12 hours, for a total of 7 days and 12 hours. The 2B CREVs was OOS for approximately 17 days and thus was a condition prohibited by TS.

On January 21, 2021, the licensee issued LER 2020-005-00 (see section 71153 of this report) in accordance with 10CFR 50.73(a)(2)(i)(B), since the failure to promptly analyze the charcoal laboratory test data resulted in a condition prohibited by TS.

**Corrective Actions:** In addition to replacing the charcoal bed, the licensee modified their testing program to address the excessive time taken to analyze and verify the sample results. The licensee modified procedures to ensure that the samples would be expeditiously analyzed and verified, such that given a failure, sufficient time would be available to replace the charcoal bed and comply with the 7-day LCO time. The licensee performed an extent of condition evaluation and applied this methodology to the 2A CREV system as well as the standby gas treatment system, which houses similar charcoal filters.

**Corrective Action References:** NCR 2359462

**Performance Assessment:**

**Performance Deficiency:** The failure to promptly review and analyze test data which resulted in a condition prohibited by TS was a performance deficiency.

**Screening:** The inspectors determined the performance deficiency was more than minor because it was associated with the Program & Process attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

**Significance:** The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed the significance of the finding using Manual Chapter (MC) 0609, "Significance Determination Process (SDP)," Attachment 4, "Initial Characterization of Findings," and Appendix 'A', "The SDP process for Findings At-Power." Specifically, using Attachment 4, the finding was determined to adversely affect the "Barrier Integrity" cornerstone since the finding was related to a degraded control room barrier. Using Table 3 of Attachment 4, the finding was required

to be further evaluated using Appendix A since the finding was related to a Barrier Integrity issue and was not related to shutdown operations, licensed operator requalification, maintenance rule risk assessments, fire protection, etc. Using Appendix 'A' (Exhibit 3), the finding was determined to be of very low safety significance (Green) since the finding solely represented a degradation of the radiological barrier function provided for the control room.

Cross-Cutting Aspect: H.1 - Resources: Leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Enforcement:

Violation: Unit 1 and Unit 2 TS LCO 3.7.3 requires two operable CREV systems while in Mode 1. In the event of discovery of one train of inoperable CREV, the opposite train is required to be restored within 7 days, otherwise both units are to be placed in Mode 3 within the following 12 hours.

Contrary to the above, between November 11, 2020, and November 28, 2020, the 'B' train of CREVs was inoperable for approximately 17 days while both units continued to operate in Mode 1, exceeding their 7-day and 12 hours timeframe to be in Mode 3.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Observation: Semi-Annual Trend Review

71152

The inspectors performed a trend analysis on the licensee's corrective action program to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on equipment performance trends, but also considered the results of inspector daily condition report screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the 6-month period of July–December 2021, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the licensee's analysis of trends. Additionally, the inspectors reviewed the adequacy of corrective actions associated with a sample of the issues identified in the licensee's trend reports. The inspectors also reviewed corrective action documents that were processed by the licensee to identify potential adverse trends in the condition of structures, systems, and/or components as evidenced by acceptance of long-standing non-conforming or degraded conditions.

During this review, the inspectors noted the emergence of a negative trend with respect to shift staffing levels. The inspectors noted six NCRs written in the past six months that addressed emergent emergency response organization (ERO) staffing deficiencies.

- NCR 2391971, "Shift manning less than minimum required due to sickness," July 31, 2021
- NCR 2392192, "I&E below minimum staffing," August 3, 2021
- NCR 2394933, "Operations shift manning less than minimum required," August 23 (Unit 1, 2019)
- NCR 2398322, "I&E below minimum ERO staffing," September 19, 2021
- NCR 2402258, "Operations shift staffing less than minimum required," October 20, 2021
- NCR 2405180, "Operations manning less than minimum due to emergent absence," November 11, 2021

In all the above case the technical specification requirements continued to be met. The

deficiencies were solely related to the ERO staffing levels as described in the radiological emergency response plan. The inspectors noted that a licensed operator class is currently in session and its successful completion should alleviate future staffing deficiencies.

## **EXIT MEETINGS AND DEBRIEFS**

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

- On November 19, 2021, the inspectors presented the Emergency Preparedness Program Inspection results to Mr. John A. Krakuszeski and other members of the licensee staff.
- On January 27, 2022, the inspectors presented the integrated inspection results to Mr. John A. Krakuszeski and other members of the licensee staff.

## DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	0AP-062	Seasonal Preparations	8
		AD-WC-ALL-0230	Seasonal Readiness	1
	Work Orders	20432538-02	Prepare areas and buildings for cold weather	10/07/2021
71111.04	Drawings	D-02041 SH0001	Service Water Piping Diagram Unit 2	067
		D-02041 SH0002	Service Water Piping Diagram Unit 2	069
	Engineering Evaluations	DBD-39	Emergency Diesel Generator and Supplemental Diesel Generator Systems	028
	Procedures	0AOP-18.0	Nuclear Service Water System Failure	034
		SD-39	System Description: Emergency Diesel Generators	21
		SD-43-026	Service Water System	26
71111.05	Fire Plans	0PFP-013	General Fire Plan	54
		AD-EG-ALL-1532	NFPA 805 Pre-Fire Plans	2
		CSD-BNP-PFP-0PBAA	Power Block Auxiliary Ares Pre-Fire Plans (SW, RW, AOG, TY, EY, PDC, GDS, MCP)	3
	Procedures	0PLP-01.2	Fire Protection System Operability, Action, and Surveillance Requirements	51
		AD-EG-ALL-1520	Transient Combustible Control	13
71111.06	Engineering Evaluations	DBD-144	External and Internal Flooding Topical Design Basis Document	1
71111.11Q	Miscellaneous	LORX-004	Simulator Evaluation Guide	22b
	Procedures	0GP-12	Power Changes	93
		AD-OP-ALL-1000	Conduct of Operations	18
71111.12	Corrective Action Documents	NCR 2349361	Generator no-load disconnect switch overheating	09/19/2020
		NCR 2351867	Unit 2 'C' phase no-load disconnect elevated temperature	10/05/2020
	Miscellaneous	EVAL-2021-BNP-5065-2186	Maintenance Rule Database - Forced shutdowns due to no-load disconnect (a1 review)	0
		EVAL-2021-BNP-5145-2188	Maintenance Rule Evaluation for excessive unavailability hours assigned to Unit 2 station auxiliary transformer	0
	Procedures	AD-EG-ALL-1210	Maintenance Rule Program	3
71111.13	Procedures	0AP-025	BNP Integrated Scheduling	60



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		AD-OP-ALL-0201	Protected Equipment	9
		AD-WC-ALL-0200	On-Line Work Management	20
		AD-WC-ALL-0250	Work Implementation and Completion	14
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