



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

June 24, 2020

Mr. John Krakuszeski
Site Vice President
Duke Energy Progress, LLC
8470 River Road, SE (M/C BNP001)
Southport, NC 28461

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT – U. S. NUCLEAR REGULATORY
COMMISSION EVALUATION OF CHANGES, TESTS, AND EXPERIMENTS
REPORT 05000324/2020011 AND 05000325/2020011

Dear Mr. Krakuszeski:

On May 22, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Brunswick Steam Electric Plant and 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.

No findings or violations of more than minor significance were identified during this inspection.

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,

A handwritten signature in black ink, appearing to be "JB" with a stylized flourish.

James B. Baptist, Chief
Engineering Branch 1
Division of Reactor Safety

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

cc w/ encl: Distribution via LISTSERV®

J. Krakuszeski

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COMMISSION EVALUATION OF CHANGES, TESTS, AND EXPERIMENTS
REPORT 05000324/2020011 AND 05000325/2020011 dated June 24, 2020

DISTRIBUTION:

P. Braxton, Reactor Inspector
C. Even, Senior Construction Inspector
W. Sifre, Senior Reactor Inspector
J. Baptist, Chief Engineering Branch 1
PUBLIC

ADAMS ACCESSION NUMBER: **ML20176A595**

<input type="checkbox"/> SUNSI Review		<input type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RII/DCO	RII/DRS	RII/DCO	RII/DRS	
NAME	C. Even	P. Braxton	W. Sifre	J. Baptist	
DATE	06/24/2020	06/24/2020	06/24/2020	06/24/2020	

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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: 05000324/2020011 and 05000325/2020011

Enterprise Identifier: I-2020-011-0018

Licensee: Duke Energy Progress, LLC

Facility: Brunswick Steam Electric Plant

Location: Southport, NC

Inspection Dates: May 18, 2020 to May 22, 2020

Inspectors: P. Braxton, Reactor Inspector
C. Even, Senior Construction Inspector
W. Sifre, Senior Reactor Inspector

Approved By: James B. Baptist, Chief
Engineering Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an U. S. NUCLEAR REGULATORY COMMISSION EVALUATION OF CHANGES, TESTS, AND EXPERIMENTS 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

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

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 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

71111.17T - Evaluations of Changes, Tests, and Experiments

Sample Selection (IP Section 02.01) (27 Samples)

The inspectors reviewed the following evaluations, screenings, and/or applicability determinations for 10 CFR 50.59 from May 18- 22, 2020.

- (1) 50.59 Evaluation: AR 2044953 - Replacement of the Unit 1 Fuel Zone Level Digital Recorder (EC 300782)
- (2) 50.50 Evaluation: AR 2144947 - Replacement of the Emergency Diesel Generator Exciter/Voltage Regulator (EC 270989)
- (3) 50.59 Evaluation: AR 02207965 - CPLD AB 700RTC Installed in 2-DG3-STR/2-DG4-STR (EC 411346)
- (4) 50.59 Screening: AR 01953074 - GE Recorder Replacements 2-D12-RR-R604 (EC 400731)
- (5) 50.59 Screening: AR 02274896 - Remove Electrical Loads (EC 415332)
- (6) 50.59 Screening: AR 00688026 - Alternate Motor FOR 1-CW-1D-OD-PMP-M (EC 296520)
- (7) 50.59 Screening: AR 02264787 - Implementing Malicious Code Protection (Anti-Virus) on Data Diodes (EC 413054)
- (8) Applicability Determination: AR 02304553 - OCM-FHE506 Deletion
- (9) Applicability Determination: AR 02177954 - DG-2 Generator Voltage Regulator (Basler) Calibration
- (10) Applicability Determination: AR 02145239 - RHR And CS Time Delay Relays Chan Cal And Functional Test
- (11) 50.59 Evaluation: AR 1966822 - FSAR Tornado Basis Update
- (12) 50.59 Screening: AR 02118693 - Hardened Containment Vent System (EC 294259)
- (13) 50.59 Screening: AR 02106399 - Make Diesel Cell Exhaust Fans Safety-Related (EC 280258)
- (14) 50.59 Screening: 00498893 - RPS EPA Undervoltage Setting for U1 EPA Breakers 5 & 6 (EC 81018)
- (15) 50.59 Screening: 02312909 - Replace Obsolete Temperature Switch for 1-B21-TS-N010A/B/C/D Main Steam Line Tunnel Area Leak Detection (EC 416915)
- (16) 50.59 Screening: 02077298 - VFD Runback to Limiter #1 on RPS Trip (EC 300810)
- (17) 50.59 Screening: 02216350 - Castle Hayne East Line Relay Panel Replacement (EC 406780)
- (18) 50.59 Screening: 02318535 - MOV Actuator for Valve 1-E11-PDV-F068B Pinion Gear

- Replacement to a Higher Gear Ratio (EC 417148)
- (19) 50.59 Screening: 02206166 - Piping Designation to Align with Atomic Energy Commission Group D Specifications (EC 412341)
 - (20) 50.59 Screening: 00731094- Diesel Generator Margin Improvements Jet Air Assist Upgrades (EC 86411)
 - (21) 50.59 Screening: 00736790 - Diesel Generator Excitation System Upgrade (EC 70989)
 - (22) 50.59 Screening: 02055746 - Replace a Rubber Lined Spool Piece of Service Water line 2-SW-103-24-157 with AL-6XN Piping Material (EC 404628)
 - (23) 50.59 Screening: 2191411 - Apply a Full Structural Weld Overlay to Dissimilar Metal Reactor Pressure Vessel (RPV) Nozzle Weld N4D (EC 411749)
 - (24) 50.59 Screening: 2191409 - Apply a Full Structural Weld Overlay to Dissimilar Metal Reactor Pressure Vessel (RPV) Nozzle Weld N4A (EC 411737)
 - (25) 50.59 Evaluation: 02237606 - Incorporation of Findings from the Final Test Results from BWR Refueling Platform EMI/RFI Test Report, F.503100 (EC 300707)
 - (26) 50.59 Evaluation: 2194691 - Install Mod to Eliminate intermittent Failure of Index Mechanism 1-C51-J002C Limit Switch S2 (EC 411912)
 - (27) 50.59 Evaluation: 02099588 - Prompt Determination of Operability to Justify Restoration of the Control Room Envelope (CRE) to Operable Status Based on a Temporary Assumption of 115 scfh MSIV Combined Leakage

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On May 22, 2020, the inspectors presented the U. S. NUCLEAR REGULATORY COMMISSION EVALUATION OF CHANGES, TESTS, AND EXPERIMENTS results to John Krakuszeski and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.17T	Calculations	BNP-E-8.010	AC Coordination Study	Rev.25
		BNP-E-8.010	AC Coordination Study	Rev.16
	Drawings	D-02523, Sheet 1	Reactor Building High Pressure Coolant Injection System Piping Diagram	59
		D-02524, Sheet 1	Reactor Building Core Spray System Piping Diagram	43
		D-02524, Sheet 2	Reactor Building Core Spray System Piping Diagram	41
		D-02525, Sheet 1A	Reactor Building Residual Heat Removal System Piping Diagram	52
		D-02525, Sheet 1B	Reactor Building Residual Heat Removal System Piping Diagram	71
		D-02529, Sheet 1	Reactor Building Reactor Core Isolation Cooling System Piping Diagram	63
		D-25023, Sheet 1	Reactor Building high Pressure Coolant Injection System Piping Diagram	61
		D-25024, Sheet 1	Reactor Building Core Spray System Piping Diagram	43
		D-25024, Sheet 2	Reactor Building Core Spray System Piping Diagram	39
		D-25025, Sheet 1A	Reactor Building Residual Heat Removal System Piping Diagram	58
		D-25025, Sheet 1B	Reactor Building Residual Heat Removal System Piping Diagram	74
		D-25029, Sheet 1	Reactor Building Reactor Core Isolation Cooling System Piping Diagram	64
		D-2506, Sheet 2B	Reactor Building Residual Heat Removal System Piping Diagram	70
		D-2526, Sheet 2B	Reactor Building Residual Heat Removal System Piping Diagram	81
	Miscellaneous		Photos of 1A CW OD Pump Motor	
			Photo of Motor Nameplate	
		0BNP-E-002	Specification for Replacement Rotating Rectifier Assembly Water Ocean Discharge Pump Motors	Rev. 0
		128-003	Specification for Synchronous Motors 100Hp and Larger	Rev. 4

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		248-117	Engineering Specification - Installation of Piping Systems	43
	Procedures	0BNP-TR-006	Motor Operated Valve (MOV) Design Basis Information Generic Letter 89-10 & Generic Letter 96-05	6
		0PT-08.1.4B	Residual Heat Removal Service Water System Operability Test - Loop B	78
	Work Orders	02222589 54	Integrated Testing of Diesel Generator-3 Following Governor Replacement	03/12/2016
		12216807 01	Integrated Testing of Diesel Generator-1 Following Governor Replacement	03/06/2016
		12222583 37	Integrated Testing of Diesel Generator-2 Following Governor Replacement	03/20/2018
		12222597 45	Integrated Testing of Diesel Generator-4 Following Governor Replacement	03/28/2017
		1346472-24, 13464742-27, 13464742-28, 13464742-29, 13464742-33, 13464742-35, 13464742-42		