



Brunswick Nuclear Plant  
8470 River Rd SE  
Southport, NC 28461

June 9, 2022

Serial: RA-22-0165

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Subject: Brunswick Steam Electric Plant, Unit No. 1  
Renewed Facility Operating License No. DPR-71  
Docket No. 50-325  
Inservice Inspection Program Owner's Activity Report for Unit 1 Refueling  
Outage 24

Ladies and Gentlemen:

Duke Energy Progress, LLC (Duke Energy), is enclosing an American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Form OAR-1 Owner's Activity Report, for the Brunswick Steam Electric Plant (BSEP), Unit No. 1. The report covers inspection activities performed during Brunswick Unit 1 Refueling Outage 24 (i.e., B1R24) for the first inspection period of the fifth inservice inspection interval.

No regulatory commitments are contained in this letter. Please refer any questions regarding this submittal to Mr. Stephen Yodersmith, Brunswick Regulatory Affairs, at (910) 832-2568.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark R. DeWire", with a long horizontal flourish extending to the right.

Mark R. DeWire  
Manager – Nuclear Support Services  
Brunswick Steam Electric Plant

SBY/sby

Enclosure: Form OAR-1 Owner's Activity Report

cc (with Enclosure):

Ms. Laura Dudes, NRC Regional Administrator, Region II  
Mr. Luke Haeg, NRC Project Manager  
Mr. Gale Smith, NRC Senior Resident Inspector

Chair - North Carolina Utilities Commission  
Mr. Donald Kinney, North Carolina Department of Labor, Boiler Safety Bureau Chief

Form OAR-1 Owner's Activity Report

**FORM OAR-1 OWNER'S ACTIVITY REPORT**

Report Number B1R24 OAR-1 Form

Plant Brunswick Steam Electric Plant (BSEP)

Unit No. 1 Commercial service date March 18, 1977 Refueling Outage No. B1R24  
(if applicable)

Current inspection interval Fifth Interval – Inservice Inspection and Pressure Test Plan  
Third Interval – Containment (IWE/IWL) Inspection Plan  
(1st, 2nd, 3rd, 4th, other)

Current inspection period First Period / Second Refueling Outage  
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the inspection plans 2007 Edition with 2008 Addenda

Date and revision of inspection plans BNP-PM5-002, Revision 2, Revision Date: February 10, 2022  
BNP-PM5-005, Revision 2, Revision Date: September 30, 2020

Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the inspection plans None

Code Cases used for inspection and evaluation: N-432-1, N-513-3, N-516-3, N-526, N-532-5, N-552-1, N-561-2, N-562-2,  
N-586-1, N-597-2, N-600, N-606-1, N-613-2, N-639, N-648-1, N-648-2,  
N-661-2, N-702, N-705, N-716-1, N-730-1, N-733, N-735, N-740-2, N-747,  
N-765, N-771, N-786-1, N-789, N-795, N-798, N-800, and N-845  
(if applicable, include cases modified by Case N-532 and later revisions)

**CERTIFICATE OF CONFORMANCE**

I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of B1R24 conform to the requirements of Section XI.

(refueling outage number)

Signed SLM4105 (137506)  
dc=com, dc=duke-energy, dc=ent, dc=nam, ou=Accounts, ou=Personal,  
ou=PNTTransitional, cn=SLM4105 (137506), email=Steve.Mays@duke-energy.com  
2022.06.02 10:31:28 -04'00' Date 6/2/2022  
Owner or Owner's Designee, Title

**CERTIFICATE OF INSERVICE INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of North Carolina and employed by Bureau Veritas Inspection and Insurance Company have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Paul P Arnett Digitally signed by Paul P Arnett Date: 2022.06.07 08:17:13 -04'00' Commissions NB 13399 B, I, N, NS, NSI, R  
Inspector's Signature National Board, State, Province, and Endorsements

Date 6/7/2022

TABLE 1 ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRED EVALUATION FOR CONTINUED SERVICE		
Examination Category and Item Number	Item Description	Evaluation Description
R-A / R1.11/16 Augment / E-9 BWRVIP-75-A Category F	1B21N4D-5-SW2-3 Nozzle Safe End to Pipe Extension (DM)	Performed successive inspection of a previously identified weld flaw and evaluated as unchanged since its discovery in B1R22 (March 2018). No new weld flaws were identified during this successive examination. Engineering evaluated the weld flaw and determined that the current condition remains bounded by the existing flaw growth-rate analysis (ref.: EC 411734; SI Calc. 1800389.301). This weld is scheduled for successive examination during each refueling outage in accordance with regulatory commitment NRC GL 88-03 and in BWRVIP-75-A, Category F.
E-A / E1.12	1-SC-ML-B5-BWL	Visual (VT-3) examination identified eighty-eight (88) spot corrosive "pit" indications ranging in size from 1/8" to 1" diameter and with substrate "pit" depth exceeding 37 mils (10% acceptance criteria). A deepest single corrosive "pit" indication was found to be 126.3 mils actual metal loss and 1/4" diameter. Evaluation determined that the required 0.025" minimum uniform thickness was not exceeded and found the discovered condition is acceptable for continued service without code repair. Liner protective coating was restored to arrest future corrosive degradation. (ref. EC EVAL 420842, Rev. 0)
E-A / E1.12	1-SC-ML-B6-BWL	Visual (VT-3) examination identified seventy-two (72) spot corrosive "pit" indications ranging in size from 1/8" to 1" diameter and with substrate "pit" depth exceeding 37 mils (10% acceptance criteria). A deepest single corrosive "pit" indication was found to be 75 mils actual metal loss and 1/4" diameter. Evaluation determined that the required 0.025" minimum uniform thickness was not exceeded and found the discovered condition is acceptable for continued service without code repair. Liner protective coating was restored to arrest future corrosive degradation. (ref. EC EVAL 420842, Rev. 0)
E-A / E1.12	1-SC-ML-B7-BWL	Visual (VT-3) examination identified two-hundred twenty-five (225) spot corrosive "pit" indications ranging in size from 1/8" to 1" diameter and with substrate "pit" depth exceeding 37 mils (10% acceptance criteria). A deepest single corrosive "pit" indication was found to be 118.7 mils actual metal loss and 1/4" diameter. Evaluation determined that the required 0.025" minimum uniform thickness was not exceeded and found the discovered condition acceptable for continued service without code repair. Liner protective coating was restored to arrest future corrosive degradation. (ref. EC EVAL 420842, Rev. 0)
E-A / E1.12	1-SC-ML-B8-BWL	Visual (VT-3) examination identified one-hundred fifty-three (153) spot corrosive "pit" indications ranging in size from 1/8" to 3/4" diameter and with substrate "pit" depth exceeded 37 mils (10% acceptance criteria). A deepest single corrosive "pit" indication was found to be 100.7 mils actual metal loss and 1/8" diameter. Evaluation determined that the required 0.025" minimum uniform thickness was not exceeded and found the discovered condition acceptable for continued service without code repair. Liner

**CASE  
N-532-5**

		protective coating was restored to arrest future corrosive degradation (ref. EC EVAL 420842, Rev. 0)
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TABLE 2 ABSTRACT OF REPAIR/REPLACEMENT ACTIVITIES REQUIRED FOR CONTINUED SERVICE				
Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement Plan Number
1	1-B21-21VH123	Welded Eye Rod on Pipe Support discovered bent and replaced during scheduled maintenance activity	4/1/2022	12116806-09
3	1-VA-1A-FCU-RB	Weld Repair of Closure Head on RHR HX / HPCI Pump Room Cooler Unit	3/23/2022	20482654-17
MC	1-RB1-LNR-EL-14-01	Replaced support flange bolting on the SRV t-quencher discharge header that was discovered broken during torus containment liner underwater inspection	3/22/2022	20482162-40