



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

September 4, 2012

Mr. Michael J. Annacone  
Vice President  
Brunswick Steam Electric Plant  
P.O. Box 10429  
Southport, NC 28461-0429

**SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT – U.S. NUCLEAR REGULATORY  
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT  
05000325/2012502 AND 05000324/2012502**

Dear Mr. Annacone:

On August 9, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Brunswick Steam Electric Plant. The enclosed inspection report documents the inspection results, which were discussed on August 9, 2012, with you and members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA: Ruben Hamilton for/***

Brian Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

Docket No. 50-325, 50-324  
License No. DPR-71, DPR-62

Enclosure:  
Inspection Report 05000325/2012502 and  
05000324/2012502 w/Att.: Supp. Info.

cc w/encl: (See page 2)

September 4, 2012

Mr. Michael J. Annacone  
Vice President  
Brunswick Steam Electric Plant  
P.O. Box 10429  
Southport, NC 28461-0429

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT – U.S. NUCLEAR REGULATORY  
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT  
05000325/2012502 AND 05000324/2012502

Dear Mr. Annacone:

On August 9, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Brunswick Steam Electric Plant. The enclosed inspection report documents the inspection results, which were discussed on August 9, 2012, with you and members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA: Ruben Hamilton for/**

Brian Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

Docket No. 50-325, 50-324  
License No. DPR-71, DPR-62

Enclosure:  
Inspection Report 05000325/2012502 and  
05000324/2012502 w/Att.: Supp. Info.

cc w/encl: (See page 2)

Distribution w/Encl.  
C. Evans, RII EICS (Part 72 Only)  
L. Douglas, RII EICS (Linda Douglas)  
OE Mail (email address if applicable)  
RIDSNRRDIRS  
RidsNrrPMBrunswick Resource

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE  
ADAMS:  Yes      ACCESSION NUMBER:       SUNSI REVIEW COMPLETE  FORM 665 ATTACHED

OFFICE	RII: DRS/PSB1	RII: DRS/PSB1	RIII: DRS	RII: DRS/PSB1	RII: DRP	
SIGNATURE	RA	RA	RA	RA	RA	
NAME	M. SPECK	W. LOO	J. BEAVERS	B. BONSER	R. MUSSER	
DATE	9/4/2012	9/4/2012	9/4/2012	9/4/2012	9/4/2012	9/ /2012
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRS\II\PSB1\INFORMATION REQUEST LETTERS\BRUNSWICK\2012  
BRUNSWICK EXERCISE REPORT REV1.DOCX

cc w/encl:

Plant General Manager  
Brunswick Steam Electric Plant  
Progress Energy  
Electronic Mail Distribution

Edward L. Wills, Jr.  
Director Site Operations  
Brunswick Steam Electric Plant  
Electronic Mail Distribution

J. W. (Bill) Pitesa  
Senior Vice President  
Nuclear Operations  
Duke Energy Corporation  
Electronic Mail Distribution

Lara S. Nichols  
Deputy General Counsel  
Duke Energy Corporation  
Electronic Mail Distribution

M. Christopher Nolan  
Director - Regulatory Affairs  
General Office  
Duke Energy Corporation  
Electronic Mail Distribution

Annette H. Pope  
Manager, Support Services  
Brunswick Steam Electric Plant  
Progress Energy Carolinas, Inc.  
Electronic Mail Distribution

Lee Grzeck  
Supervisor - Licensing/Regulatory Programs  
(Acting)  
Brunswick Steam Electric Plant  
Progress Energy Carolinas, Inc.  
Electronic Mail Distribution

Randy C. Ivey  
Manager, Nuclear Oversight  
Brunswick Steam Electric Plant  
Progress Energy Carolinas, Inc.  
Electronic Mail Distribution

Paul E. Dubrouillet  
Manager, Training  
Brunswick Steam Electric Plant  
Electronic Mail Distribution

Joseph W. Donahue  
Vice President  
Nuclear Oversight  
Progress Energy  
Electronic Mail Distribution

David T. Conley  
Senior Counsel  
Legal Department  
Progress Energy  
Electronic Mail Distribution

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
Brunswick Steam Electric Plant  
U.S. NRC  
8470 River Road, SE  
Southport, NC 28461

John H. O'Neill, Jr.  
Shaw, Pittman, Potts & Trowbridge  
2300 N. Street, NW  
Washington, DC 20037-1128

Peggy Force  
Assistant Attorney General  
State of North Carolina  
P.O. Box 629  
Raleigh, NC 27602

Chairman  
North Carolina Utilities Commission  
Electronic Mail Distribution

Robert P. Gruber  
Executive Director  
Public Staff - NCUC  
4326 Mail Service Center  
Raleigh, NC 27699-4326

cc: (continued on page 3)

M. Annacone

3

cc w/encl:

Anthony Marzano  
Director  
Brunswick County Emergency Services  
Electronic Mail Distribution

Public Service Commission  
State of South Carolina  
P.O. Box 11649  
Columbia, SC 29211

W. Lee Cox, III  
Section Chief  
Radiation Protection Section  
N.C. Department of Environmental  
Commerce & Natural Resources  
Electronic Mail Distribution

Warren Lee  
Emergency Management Director  
New Hanover County Department of  
Emergency Management  
230 Government Center Drive  
Suite 115  
Wilmington, NC 28403

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 05000325, 05000324

License Nos.: DPR-71, DPR-62

Report No.: 05000325/2012502 and 05000324/2012502

Licensee: Carolina Power and Light Company

Facility: Brunswick Steam Electric Plant, Units 1 and 2

Location: Southport, NC

Dates: August 6, 2012, through August 9, 2012

Inspectors: M. Speck, Senior Emergency Preparedness Inspector  
J. Beavers, Emergency Preparedness Inspector  
W. Loo, Senior Health Physicist

Approved by: Brian Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000325/2012-502 and 05000324/2012-502; 08/06/2012 – 08/09/2012; Brunswick Steam Electric Plant, Unit 1 and 2; Baseline Inspection.

The report covered an announced inspection by two emergency preparedness inspectors and one senior health physicist. No findings were identified. The U.S. Nuclear Regulatory Commission's (NRC) program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

None

B. Licensee-Identified Violations

None

## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation

##### a. Inspection Scope

Prior to the arrival onsite, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the NRC to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14).

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise, conducted on August 7, 2012, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards (RSPS) in 10 CFR 50.47 (b)(4), (5), (9), and (10) which address emergency classification, offsite notification, radiological assessment, and protective action recommendations, respectively.
- The overall adequacy of the licensee's emergency response facilities with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities" and Emergency Plan commitments. The facilities assessed were the Control Room Simulator, Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF).
- Other performance areas, such as: the emergency response organization's (ERO) recognition of abnormal plant conditions; command and control, intra- and inter-facility communications; prioritization of mitigation activities; utilization of repair and field monitoring teams; interface with offsite agencies; and the overall implementation of the emergency plan and its implementing procedures.
- Past performance issues from NRC inspection reports and Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) exercise reports to determine the effectiveness of corrective actions as demonstrated during this exercise to ensure compliance with 10 CFR 50.47(b)(14).
- The post-exercise critique process and the presentation to the licensee's senior management conducted on August 9, 2012, to evaluate the licensee's self-assessment of its ERO performance during the exercise and to ensure compliance with 10 CFR 50, Appendix E, Subsection IV.F.2.g.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

## 4. OTHER ACTIVITIES

4OA1 Performance Indicator Verificationa. Inspection Scope

The inspector sampled licensee submittals relative to the Performance Indicators (PIs) listed below for the period April 1, 2011, through June 30, 2012. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline", Revision 6, were used to confirm the reporting basis for each data element.

Emergency Preparedness Cornerstone

- Emergency Response Organization Drill/Exercise Performance (DEP)
- Emergency Response Organization Readiness (ERO)
- Alert and Notification System Reliability (ANS)

For the specified review period, the inspector examined data reported to the NRC procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspector verified the accuracy of the DEP through review of a sample of drill and event records. The inspector reviewed selected training records to verify the accuracy of the ERO PI for personnel assigned to key positions in the ERO. The inspector verified the accuracy of the PI for ANS reliability through review of a sample of the licensee's records of periodic system tests. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment.

The inspector reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for each of the three (3) Emergency Preparedness PIs (i.e., DEP, ERO, and ANS) on an annual basis.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On August 9, 2012, the lead inspector presented the inspection results to Mr. M. Annacone and other members of the plant staff. The inspectors confirmed that proprietary information was not provided during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel

M. Annacone, VP – BNP  
M. Austin, Corporate Emergency Preparedness  
C. Bergwald, Emergency Preparedness Specialist  
K. Crocker, Supervisor Emergency Preparedness  
J. Frisco, Plant General Manager  
S. Gordy, Manager, Maintenance  
L. Grzeck, Supervisor Licensing/Regulatory Programs  
J. Kessel, Emergency Preparedness Specialist  
M. Kinney, Emergency Preparedness Specialist  
A. Pope, Manager, Organizational Effectiveness  
K. Sawyer, Emergency Preparedness Specialist  
J. Stephenson, Corporate Emergency Preparedness  
E. White, Emergency Preparedness Specialist  
E. Wills, Director of Site Operations

### **ITEMS OPENED, CLOSED, AND DISCUSSED**

None

### **LIST OF DOCUMENTS REVIEWED**

#### 1EP1 Exercise Evaluation

##### Procedures

OPEP-02.1.1; Emergency Control – Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency, Rev. 20  
OPEP-02.2.1; Emergency Action Level Technical Bases, Rev. 4  
OPEP-02.6.12; Activation and Operation of the Operational Support Center (OSC), Revision 38  
OPEP-02.6.20; Dose Projection Coordinator, Rev. 25  
OPEP-02.6.21; Emergency Communicator, Rev. 64  
OPEP-02.6.26; Activation and Operation of the Technical Support Center (TSC), Rev. 27  
OPEP-02.6.27; Activation and Operation of the Emergency Operations Facility (EOF), Rev. 30  
OPEP-02.6.28; Off-site Protective Action Recommendations, 10  
OPEP-03.4.8; Offsite Dose Projections for Monitored Releases, Rev. 0  
OPEP-03.5.5; Environmental Monitoring and Plume Tracking, Rev. 5  
OPEP-03.6.3; Estimate of the Extent of Core Damage Under Accident Conditions, Rev. 17  
OPEP-03.7.7; Onsite Radiological Controls, Rev. 5  
OPEP-03.8.2; Personnel Accountability and Evacuation, Rev. 22

##### Records and Data

Control Room, Technical Support Center, Operational Support Center, Emergency Operations Facility, Joint Information Center, Central Emergency Response Center - Documentation packages (logs, event notification forms, Protective Action Recommendations, Media releases, and Radiological Dose Assessments)  
2010, 2011, and 2012 Emergency Exercise and drill scenario documents

Corrective Action Program documents

551620; EOF off-site dose assessment problems  
 553662; no chemistry sampling capability on loss of power  
 553814; event notification worksheet not completed  
 553849; ENS headset malfunction  
 553892; ENF form had incorrect imported values  
 553905; Alert notification ready while a follow-up notification was completed  
 553915; Visitor dosimetry distribution expectations need clarification  
 553931; Additional dosimetry requirements for security and other personnel  
 553995; JIC improvements  
 554018; Missions delayed due to lack of skilled resources  
 554023; No TSC or OSC pre-activation brief  
 554056; Instrumentation loss not well understood by TSC and EOF ERO members  
 554057, and 554058; scenario weaknesses  
 554060; TSC briefing delayed time-critical activities  
 554062; Weaknesses in log keeping  
 555709; Develop rule-based power restoration procedure  
 555710; Erroneous information on Mission Authorization forms  
 555713; No specific objectives/success criteria for Drill control  
 555715; Change in scenario timeline not communicated  
 555716; Shift turnover sheet not consistent with common usage in Main Control Room  
 555717; List of recently added equipment for emergency response  
 555719; Weakness in accountability in emergency response facilities  
 555724; Clarify tie between classification and notification in PI documents

Section 4OA1: Performance Indicator VerificationProcedures

REG-NGGC-0009; NRC Performance Indicators and Monthly Operating Report Data, Rev. 11  
 OPEP-04.3; Performance of Training, Exercises, and Drills, Rev. 24

Records and Data

DEP opportunities documentation for 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> quarter 2011, and 1<sup>st</sup> and 2<sup>nd</sup> quarter 2012  
 Siren test data for 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarter 2011, and 1<sup>st</sup> and 2<sup>nd</sup> quarter 2012  
 ERO training records for 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarter 2011, and 1<sup>st</sup> and 2<sup>nd</sup> quarter 2012

**LIST OF ACRONYMS USED**

ANS	Alert and Notification System
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OSC	Operations Support Center
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
TSC	Technical Support Center