



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 21, 2011

Mr. Michael J. Annacone, Vice President
Brunswick Steam Electric Plant
Carolina Power & Light Company
Post Office Box 10429
Southport, North Carolina 28461

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2—ISSUANCE OF
AMENDMENTS REGARDING ADOPTION OF TSTF-514
(TAC NOS.ME6698 AND ME6699)

Dear Mr. Annacone:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 260 to Renewed Facility Operating License No. DPR-71 and Amendment No. 288 to Renewed Facility Operating License No. DPR-62 for Brunswick Steam Electric Plant (BSEP), Units 1 and 2, respectively. The amendments are in response to your application dated July 12, 2011.

The amendments revise BSEP Technical Specifications (TS) 3.4.5, "RCS Leakage Detection Instrumentation," consistent with the NRC approved Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler TSTF-514, "Revise BWR [Boiling Water Reactor] Operability Requirements and Actions for RCS [Reactor Coolant System] Leakage Instrumentation," Revision 3. The availability of this TS improvement was announced in the *Federal Register* on December 17, 2010 (75 FR 79048) as part of the consolidated line item improvement process.

A copy of the related safety evaluation is also enclosed. A notice of issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA by EBrown for/

Farideh E. Saba, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-325 and 50-324

Enclosures:

1. Amendment No. 260 to License No. DPR-71
2. Amendment No. 288 to License No. DPR-62
3. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 260
Renewed License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated July 12, 2011, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and Paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-71 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 260 , are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Douglas A. Broaddus, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Operating License
and Technical Specifications

Date of Issuance: December 21, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 260
RENEWED FACILITY OPERATING LICENSE NO. DPR-71
DOCKET NO. 50-325

Replace Page 4 of Renewed Operating License DPR-71 with the attached Page 4.

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

3.4-10

Insert Page

3.4-10

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 260, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

For Surveillance Requirements (SRs) that are new in Amendment 203 to Renewed Facility Operating License DPR-71, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 203. For SRs that existed prior to Amendment 203, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 203.

- (a) Effective June 30, 1982, the surveillance requirements listed below need not be completed until July 15, 1982. Upon accomplishment of the surveillances, the provisions of Technical Specification 4.0.2 shall apply.

Specification 4.3.3.1, Table 4.3.3-1, Items 5.a and 5.b

- (b) Effective July 1, 1982, through July 8, 1982, Action statement "a" of Technical Specification 3.8.1.1 shall read as follows:

ACTION:

- a. With either one offsite circuit or one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.A. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4.8.1.1.2.a.4 within two hours and at least once per 12 hours thereafter; restore at least two offsite circuits and four diesel generators to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

- (3) Deleted by Amendment No. 206.

- D. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Physical Security Plan, Revision 2," and "Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006, and "Guard Training and Qualification Plan, Revision 0," submitted by letter dated September 30, 2004.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. Required primary containment atmosphere radioactivity monitoring system inoperable.</p>	<p>B.1 Analyze grab samples of primary containment atmosphere.</p> <p><u>AND</u></p> <p>B.2 Restore required primary containment atmosphere radioactivity monitoring system to OPERABLE status.</p>	<p>Once per 12 hours</p> <p>30 days</p>
<p>-----NOTE----- Only applicable when the primary containment atmosphere gaseous radiation monitor is the only OPERABLE monitor. -----</p> <p>C. Drywell floor drain sump monitoring system inoperable.</p>	<p>C.1 Analyze grab samples of primary containment atmosphere.</p> <p><u>AND</u></p> <p>C.2 Monitor RCS LEAKAGE by administrative means.</p> <p><u>AND</u></p> <p>C.3 Restore drywell floor drain sump monitoring system to OPERABLE status.</p>	<p>Once per 12 hours</p> <p>Once per 12 hours</p> <p>7 days</p>
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met.</p> <p><u>OR</u></p> <p>All required leakage detection systems inoperable.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>



UNITED STATES
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CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 288
Renewed License No. DPR-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated July 12, 2011, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment; and Paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-62 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 288 , are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Douglas A. Broaddus, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Operating License
and Technical Specifications

Date of Issuance: December 21, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 288
RENEWED FACILITY OPERATING LICENSE NO. DPR-62
DOCKET NO. 50-324

Replace Page 3 of Renewed Operating License DPR-62 with the attached Page 3.

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

Insert Page

3.4-10

3.4-10

as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source, and special nuclear materials without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30 and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Brunswick Steam Electric Plant, Unit Nos. 1 and 2, and H. B. Robinson Steam Electric Plant, Unit No. 2

(6) Carolina Power & Light Company shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Report dated November 22, 1977, as supplemented April 1979, June 11, 1980, December 30, 1986, December 6, 1989, July 28, 1993, and February 10, 1994 respectively, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2923 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 288, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. Required primary containment atmosphere radioactivity monitoring system inoperable.</p>	<p>B.1 Analyze grab samples of primary containment atmosphere.</p> <p><u>AND</u></p> <p>B.2 Restore required primary containment atmosphere radioactivity monitoring system to OPERABLE status.</p>	<p>Once per 12 hours</p> <p>30 days</p>
<p>-----NOTE----- Only applicable when the primary containment atmosphere gaseous radiation monitor is the only OPERABLE monitor.</p> <hr/> <p>C. Drywell floor drain sump monitoring system inoperable.</p>	<p>C.1 Analyze grab samples of primary containment atmosphere.</p> <p><u>AND</u></p> <p>C.2 Monitor RCS LEAKAGE by administrative means.</p> <p><u>AND</u></p> <p>C.3 Restore drywell floor drain sump monitoring system to OPERABLE status.</p>	<p>Once per 12 hours</p> <p>Once per 12 hours</p> <p>7 days</p>
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met.</p> <p><u>OR</u></p> <p>All required leakage detection systems inoperable.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 260 AND 288

TO RENEWED FACILITY OPERATING LICENSES NOS. DPR-71 AND DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

1.0 INTRODUCTION

By letter dated July 12, 2011 (Agencywide Documents Access and Management System Accession No. ML11208B626), Carolina Power & Light Company (the licensee), proposed changes to the Technical Specifications (TS) for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The proposed changes revise TS 3.4.5, "RCS [Reactor Coolant System] Leakage Detection Instrumentation," and include TS Bases changes that summarize and clarify the purpose of the TS and the specified safety function of the leakage detection monitors.

The licensee stated that the license amendment request is consistent with Nuclear Regulatory Commission (NRC)-approved Revision 3 to Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler TSTF-514, "Revise BWR [Boiling Water Reactor] Operability Requirements and Actions for RCS Leakage Instrumentation." The availability of this TS improvement was announced in the *Federal Register* on December 17, 2010 (75 FR 79048) as part of the consolidated line item improvement process.

2.0 REGULATORY EVALUATION

The NRC's regulatory requirements related to the content of the TS are contained in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36. Paragraph (c)(2)(i) of 10 CFR 50.36 states that limiting conditions for operation (LCOs) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. Paragraph (c)(2)(ii) of 10 CFR 50.36 lists four criteria for determining whether particular items are required to be included in the TS LCOs. Criterion 1 applies to installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary (RCPB). As described in the *Federal Register* notice associated with this regulation (60 FR 36953, July 19, 1995), the scope of TS includes two general classes of technical matters: (1) those related to prevention of accidents, and (2) those related to mitigation of the consequences of accidents. Criterion 1 addresses systems and process variables that alert the operator to a situation when accident initiation is more likely, and supports the first of these two general classes of technical matters which are included in TS. As specified in Paragraph (c)(2)(i) of 10 CFR 50.36, when an LCO of a nuclear reactor is not met, the licensee

Enclosure

shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met.

The NRC's guidance for the format and content of BWR TS can be found in NUREG-1433, Revision 3.0, "Standard Technical Specifications General Electric Plants, BWR/4." The STS 3.4.6 "RCS Leakage Detection Instrumentation," in NUREG-1433, contains the guidance specific to the RCS leakage detection instrumentation for BWRs.

The Bases for STS 3.4.6 contained in NUREG-1433, Revision 3.0, provide background information, the applicable safety analyses, a description of the LCO, the applicability for the RCS leakage detection instrumentation TS, and describe the Actions and Surveillance Requirements. The TS Bases provide the purpose or reason for the TS which are derived from the analyses and evaluation included in the safety analysis report, and for these Specifications, the RCS leakage detection instrumentation design assumptions and licensing basis for the plant.

As stated in NRC Information Notice (IN) 2005-24, "Nonconservatism in Leakage Detection Sensitivity," the reactor coolant activity assumptions for primary containment/drywell atmosphere gaseous radioactivity monitors may be non-conservative. This means the monitors may not be able to detect a 1 gallon per minute (gpm) leak within 1 hour under all likely operating conditions.

The issue described in IN 2005-24 has raised questions regarding operability requirements for primary containment/drywell atmosphere gaseous radioactivity monitors. TSTF-514, Revision 3, revises the TS Bases to summarize the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. Part of the TS Bases changes revises the specified safety function of the RCS leakage detection monitors to specify the required instrument sensitivity level. In addition, TSTF-514, Revision 3, includes a new TS Condition for RCS leakage detection instrumentation to establish Required Actions for operation during conditions of reduced monitoring sensitivity because the gaseous radioactivity instrumentation is the only operable instrument.

The regulation at 10 CFR Part 50, Appendix A, General Design Criterion (GDC)-30, "Quality of Reactor Coolant Pressure Boundary," requires means for detecting and, to the extent practical, identifying the location of the source of RCS leakage. Regulatory Guide (RG) 1.45, Revision 0, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973, describes acceptable methods of implementing the GDC-30 requirements with regard to the selection of leakage detection systems for the RCPB.

RG 1.45, Revision 0, Regulatory Position C.2, states that "Leakage to the primary reactor containment from unidentified sources should be collected and the flow rate monitored with an accuracy of one gallon per minute (gpm) or better."

RG 1.45, Revision 0, Regulatory Position C.3 states:

At least three separate detection methods should be employed and two of these methods should be (1) sump level and flow monitoring and (2) airborne

particulate radioactivity monitoring. The third method may be selected from the following:

- a. monitoring of condensate flow rate from air coolers [or]
- b. monitoring of airborne gaseous radioactivity. Humidity, temperature, or pressure monitoring of the containment atmosphere should be considered as alarms or indirect indication of leakage to the containment.

RG 1.45, Revision 0, Regulatory Position C.5 states, "The sensitivity and response time of each leakage detection system in regulatory position 3 above employed for unidentified leakage should be adequate to detect a leakage rate, or its equivalent, of one gpm in less than one hour." RG 1.45, Revision 0, states, "In analyzing the sensitivity of leak detection systems using airborne particulate or gaseous radioactivity, a realistic primary coolant radioactivity concentration assumption should be used. The expected values used in the plant environmental report would be acceptable." The appropriate sensitivity of a plant's primary containment/drywell atmosphere gaseous radioactivity monitors is dependent on the design assumptions and the plant-specific licensing basis as described in the plant's final safety analysis report (FSAR). The NRC staff's approval of the use of expected primary coolant radioactivity concentration values used in the environmental report creates a potential licensing conflict when a licensee is able to achieve and maintain primary coolant radioactivity concentration values lower than the value assumed in the environmental report.

RG 1.45, Revision 1, "Guidance on Monitoring and Responding to Reactor Coolant System Leakage," was issued in May 2008. RG 1.45, Revision 1, describes methods for implementing the GDC 30 requirements that are different from those in RG 1.45, Revision 0, and was developed and issued to support new reactor licensing. Revision 1 allows that having two TS leakage detection methods capable of detecting a one gpm leak within one hour provides adequate leakage detection capability from a safety perspective. It recommends that other potential indicators (including the gaseous radiation monitors) be maintained even though they may not have the same detection capability. These indicators, in effect, provide additional defense-in-depth.

The licensee states:

The BSEP design was reviewed for construction under the "General Design Criteria for Nuclear Power Plant Construction" issued for comment by the Atomic Energy Commission in July 1967 and is committed to meet the intent of the General Design Criteria (GDC), published in the *Federal Register* on May 21, 1971, as Appendix A to 10 CFR Part 50. Criterion 30, "Quality of reactor coolant pressure boundary," requires that means be provided for detecting and, to the extent practical, identifying the location of the source of reactor coolant leakage. BSEP is currently committed to Regulatory Guide (RG) 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," Revision 0, May 1973. Section 5.2.5, "Detection of Leakage Through Reactor Coolant System Boundary," of the BSEP Updated Final Safety Analysis Report (UFSAR) provides details associated with the leakage detection systems in use at BSEP.

BSEP UFSAR Section 3.1.2.4.1, "Criterion 30 - Quality of reactor coolant Pressure Boundary" states:

Criterion

Components which are part of the RCPB shall be designed, fabricated, erected, and tested to the highest quality standards practical. Means shall be provided for detecting and, to the extent practical, identifying the location of the source of reactor coolant leakage.

Compliance

ASME [American Society of Mechanical Engineers] and ANSI [American Nuclear Standard Institute] Codes are used as the established and accepted criteria for design, fabrication, and operation of components of the RCPB. The RCPB was designed and fabricated to meet the following codes:

- a. Reactor vessel: 1965 ASME Boiler and Pressure Vessel Code, Section III, Nuclear Vessels, Subsection A with Addenda to Summer 1967
- b. Pumps: As required by CP&L's specifications
- c. Valves: ANSI B16.5 for design
- d. Piping: ANSI B31.1.0-1967, Code for Pressure Piping, Power Piping. CP&L has also provided for compliance with ANSI B31.7.0 (with minor exceptions; for example, third party inspection is not performed) although this was not then an AEC requirement

The pressure boundary devices are listed in Section 3.2.2 along with the appropriate codes and standards governing their design. The components of the RCPB are discussed in Chapter 5.

BSEP UFSAR, Section 5.2.5, provides a description of the leakage detection devices associated with the reactor coolant pressure boundary. BSEP UFSAR, Section 5.2.5.2.4.1, "Detection of Leakage Inside Drywell," states:

Since the systems within the drywell share a common area, their leakage detection systems are necessarily common. Each of the leakage detection systems inside the drywell is designed with a capability to detect leakage less than established leakage rate limits.

Leaks within the primary containment are detected by:

- Monitoring pressure and temperature in the drywell
- Monitoring the flow in the equipment drain and the floor drain sumps
- Monitoring the cooling water temperature to and from the primary containment atmosphere coolers
- Monitoring the reactor water level

Note that BSEP is not committed to RG 1.45, Revision 1.

3.0 TECHNICAL EVALUATION

In adopting the changes to TS included in TSTF-514, Revision 3, the licensee proposed to revise TS 3.4.5, "RCS Leakage Detection Instrumentation," Conditions and Required Actions. The licensee proposed adding new Condition C to TS 3.4.5. New Condition C would be applicable when the primary containment atmosphere gaseous radioactivity monitoring system is the only operable RCS leakage detection monitor. This new Condition is necessary because improved fuel integrity and the resulting lower primary coolant radioactivity concentration affect the response of a plant's primary containment atmosphere gaseous radioactivity monitor to a greater extent than the response of other RCS leakage detection monitors to leakage radioactivity. The proposed Required Actions for new Condition C require the licensee to analyze grab samples of the primary containment atmosphere once every 12 hours, restore the drywell floor drain sump monitoring system to Operable status within 7 days, and monitor RCS leakage by administrative means once every 12 hours.

Administrative means of monitoring RCS leakage include trending parameters that may indicate an increase in RCS leakage. There are diverse alternative methods from which appropriate indicators for identifying RCS leakage may be selected based on plant conditions. CP&L will utilize the following methods considering the current plant conditions and historical or expected sources of unidentified leakage, as their TS administrative means: drywell pressure, drywell temperature, reactor building closed cooling water system cooling water temperature to and from the primary containment atmosphere coolers, and reactor water level.

The NRC staff determined that the proposed Condition C is more restrictive than the current requirement, because there is no current TS Condition for the plant condition of the primary containment atmosphere gaseous radioactivity monitoring system being the only operable RCS leakage detection monitor. The associated proposed Actions and Completion Times are adequate because monitoring the RCS by administrative means, coupled with primary containment atmospheric grab samples, are sufficient to alert the operating staff to an unexpected increase in unidentified leakage. The primary containment atmospheric grab samples provide a method of detecting particulate and gaseous radioactive material in the drywell atmosphere. However, taking frequent grab samples will ensure there is no significant loss of monitoring capability during the Required Action Completion Time. The 12-hour interval is reasonable given the availability of the primary containment atmospheric gaseous radiation monitor. Allowing 7 days to restore another RCS leakage monitor to operable status is reasonable given the diverse methods employed in the Required Actions to detect an RCS leak and the low probability of a large RCS leak during this period. Proposed Condition C is conservative relative to the STS, sufficiently alerts the operating staff, provides a comparable ability to detect RCS leakage, and provides time intervals that are reasonable. Therefore, the NRC staff determined that proposed Condition C provides an adequate assurance of safety when judged against current regulatory standards.

The licensee proposed minor changes to ensure continuity of the TS format. The licensee changes the current "Condition C," including its associated "Required Action" and "Completion

Time” to “Condition D” when inserting new Condition C. The NRC staff determined that these changes are editorial, and therefore acceptable.

In adopting TSTF-514, Revision 3, the licensee proposed changes that would revise the Bases for TS 3.4.5 to reflect the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation and reflect the proposed TS changes. The regulation at 10 CFR 50.36(a)(1) requires a summary statement of the TS Bases or reasons for such specifications be included with the application. The proposed TS Bases changes related to operability of the RCS leakage detection instrumentation are acceptable because they are consistent with the design basis of the facility and provide: background information, applicable safety analyses, a description of the limiting condition for operation, and the applicability for the RCS leakage detection instrumentation TS. These instruments satisfy Criterion 1 of 10 CFR 50.36(c)(2)(ii) in that they are installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the RCPB.

The NRC staff evaluated the licensee's proposed changes against the applicable regulatory requirements listed in Section 2 of this safety evaluation. The NRC staff also compared the proposed changes to the changes made to the STS by TSTF-514, Revision 3. The NRC staff determined that all the proposed changes afford adequate assurance of safety when judged against current regulatory standards. Therefore, the NRC staff finds the proposed changes acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of North Carolina official was notified of the proposed issuance of the amendments. The State Official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (September 6, 2011; 76 FR 55127). The amendment also relates to changes in the format of the license or permit or otherwise makes editorial, corrective or minor revisions, including the updating of NRC-approved references. Accordingly the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by

operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Melana Singletary

Date: December 21, 2011

December 21, 2011

Mr. Michael J. Annacone, Vice President
Brunswick Steam Electric Plant
Carolina Power & Light Company
Post Office Box 10429
Southport, North Carolina 28461

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENTS REGARDING ADOPTION OF TSTF-514 (TAC NOS.ME6698 AND ME6699)

Dear Mr. Annacone:

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A copy of the related safety evaluation is also enclosed. A notice of issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA by EBrown for/

Farideh E. Saba, Senior Project Manager
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