

February 8, 2008

Mr. Benjamin Waldrep, Vice President
Brunswick Steam Electric Plant
Carolina Power & Light Company
Post Office Box 10429
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SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENT REGARDING PRIMARY CONTAINMENT LEAKAGE RATE
TESTING PROGRAM (TAC NOS. MD6340 AND MD6341)

Dear Mr. Waldrep:

The Commission has issued the enclosed Amendment No. 245 to Renewed Facility Operating License No. DPR-71 and Amendment No. 273 to Facility Operating License No. DPR-62 for Brunswick Steam Electric Plant, Units 1 and 2, in response to the application dated August 6, 2007. The amendments revise Technical Specification 5.5.12, "Primary Containment Leakage Rate Testing Program," to allow the required visual inspections to be performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Subsections IWL and IWE.

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/

Stewart N. Bailey, 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. 245 to
License No. DPR-71
2. Amendment No. 273 to
License No. DPR-62
3. Safety Evaluation

cc w/enclosures: See next page

Carolina Power & Light Company

Brunswick Steam Electric Plant
Units 1 and 2

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cc w/enclosures: See next page

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Letter to Benjamin Waldrep from Stewart N. Bailey dated February 8, 2008.

SUBJECT: AMENDMENT NO. 245 TO RENEWED FACILITY OPERATING LICENSE
NO. DPR-71 - BRUNSWICK, UNIT 1
AMENDMENT NO. 273 TO RENEWED FACILITY OPERATING LICENSE
NO. DPR-62 - BRUNSWICK, UNIT 2

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CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 245
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 August 6, 2007, 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 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 Appendices A and B, as revised through Amendment No. 245, 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Thomas H. Boyce, 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: February 8, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 245
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 pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

5.0-16
5.0-17

Insert Pages

5.0-16
5.0-17

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 273
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 August 6, 2007, 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 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 Appendices A and B, as revised through Amendment No. 273, 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Thomas H. Boyce, 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: February 8, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 273

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 pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

5.0-16

5.0-17

Insert Pages

5.0-16

5.0-17

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 245 AND 273
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 August 6, 2007, the Carolina Power & Light Company (the licensee) requested amendments to Renewed Operating Licenses DPR-71 and DPR-62 for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2, respectively. The proposed amendments would revise Technical Specification (TS) 5.5.12, "Primary Containment Leakage Rate Testing Program," to allow the required visual inspections to be performed in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, Subsections IWE and IWL. Other editorial and administrative changes are also proposed.

2.0 REGULATORY EVALUATION

The licensee performs containment leak rate testing at BSEP in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix J, Option B, "Performance-Based Leakage Test Requirements." This regulation requires visual examinations before each Type A test (e.g., integrated leak rate test, or ILRT) to provide early indication of degradation that would impact the integrity of the containment.

BSEP TS 5.5.12 specifies, in part, that the containment leakage rate program shall be in accordance with the guidelines in Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Rate Program." With regard to visual examination of accessible interior and exterior surfaces of containment, Regulatory Position C.3 of RG 1.163 states, "These examinations should be conducted prior to initiating a Type A test, and during two other refueling outages before the next Type A test if the interval for the Type A test has been extended to 10 years in order to allow for early uncovering of evidence of structural deterioration."

The regulations 10 CFR 50.55a(g)(4) and 10 CFR 50.55a(g)(5) require licensees to update their containment in-service inspection (CISI) program in accordance with the edition and addenda of the ASME Code, Section XI, Division 1, Subsections IWE and IWL, incorporated by reference in 10 CFR 50.55a(b)(2), subject to the limitation listed in 10 CFR 50.55a(b)(2)(vi) and modifications listed in 10 CFR 50.55a(b)(2)(viii) and 10 CFR 50.55a(b)(2)(ix). This CISI program has visual examination requirements per ASME Code Articles IWE-2000 and IWL-2000.

The proposed change is based on TS Task Force (TSTF) Traveler TSTF-343, "Containment Structural Integrity," Revision 1, and is designed to improve consistency between BSEP TS 5.5.12 and 10 CFR 50.55a(g)(4) for components classified as Code Class MC and CC. TSTF-343, Revision 1, supports performing the 10 CFR Part 50, Appendix J, Option B, visual examinations in accordance with ASME Code, Section XI, Subsections IWE and IWL, to meet the intent of visual examinations specified in Regulatory Position C.3 of RG 1.163, without requiring additional visual examinations pursuant to RG 1.163. TSTF-343, Revision 1, was approved by the Nuclear Regulatory Commission (NRC) staff on December 6, 2005.

Section V.B.3 of 10 CFR Part 50, Appendix J, Option B, requires that the RG or other implementation document used by a licensee to develop a performance-based leakage-testing program must be included, by general reference, in the plant TSs. Further, a submittal for TS revisions must contain justification, including supporting analyses, if the licensee chooses to deviate from methods approved by the NRC and endorsed in a RG. The staff considers the licensee's submittal to fall under 10 CFR Part 50 Appendix J, Option B, Section V.B.3, since the licensee proposes to take exceptions to its current commitment in TS 5.5.12 with regard to the requirements and frequency for visual examination of accessible interior and exterior surfaces of the containment structure to uncover structural problems that may affect leakage integrity.

3.0 TECHNICAL EVALUATION

3.1 Proposed Change

BSEP TS 5.5.12 requires the containment leakage-rate program to be conducted in accordance with the guidelines contained in RG 1.163, as modified by exceptions that are noted in the TS. The proposed change adds two exceptions to RG 1.163 as follows:

1. The visual examination of containment concrete surfaces intended to fulfill the requirements of 10 CFR 50, Appendix J, Option B testing, will be performed in accordance with the requirements and frequency specified by ASME Section XI Code, Subsection IWL, except where relief has been authorized by the NRC.
2. The visual examination of the steel liner plate inside containment intended to fulfill the requirements of 10 CFR 50, Appendix J, Option B testing, will be performed in accordance with the requirements and frequency specified by ASME Section XI Code, Subsection IWE, except where relief has been authorized by the NRC.

The licensee also proposed administrative and editorial changes to TS 5.5.12. As an administrative item, the current exception f. was deleted because the one-time Type A test it required has already been performed. The editorial change revises the lettering of the exceptions.

3.2 Evaluation

The BSEP primary containment structures are steel-lined, reinforced concrete. The primary containment of each unit includes a drywell and a pressure suppression chamber connected by vents, isolation valves, vacuum breakers, containment cooling systems, and other service equipment. The overall leak-tight characteristics and structural integrity of the containment is

verified through a Type A test (ILRT) performed periodically at the design basis accident pressure.

The BSEP TSs specify, in part, that the containment leakage-rate program shall be in accordance with the guidelines contained in RG 1.163 dated September 1995. Regulatory Position C.3 of RG 1.163 states:

Section 9.2.1, "Pretest Inspection and Test Methodology," of [Nuclear Energy Institute (NEI) document] NEI 94-01 provides guidance for visual examination of accessible interior and exterior surfaces of the containment system for structural problems. These examinations should be conducted prior to initiating a Type A test, and during two other refueling outages before the next Type A test if the interval for the Type A test has been extended to 10 years, in order to allow for early uncovering of evidence of structural deterioration.

There are no specific requirements in NEI 94-01 for the visual examination except that it is to be a general visual examination of accessible interior and exterior surfaces of the primary containment components.

The CISI requirements of 10 CFR 50.55a(g)(4) specify that the concrete surfaces of the containment must be visually examined in accordance with ASME Code, Section XI, Subsection IWL, and the liner plate inside containment must be visually examined in accordance with ASME Code, Section XI, Subsection IWE. The frequency of visual examination of the concrete surfaces Subsection IWL is once every five years (in general, two in a 10-year interval), and the frequency of visual examination of the liner plate in Subsection IWE is, in general, three over a 10-year interval. The visual examination performed pursuant to Subsection IWL may be performed any time during power operation or during shutdown, and the visual examinations performed pursuant to Subsection IWE are performed during refueling outages since this is the only time that the liner plate is fully accessible. The licensee substantiated that the requirements for visual examinations performed pursuant to Subsections IWE and IWL are more rigorous than those performed pursuant to Regulatory Guide 1.163 and NEI 94-01. The staff agrees that the combination of the Code requirements for rigor of the visual examinations plus the Code-required third party review will more than offset the fact that one fewer visual examination of the concrete surfaces will be performed during a 10-year interval. The fact that the exterior concrete visual examinations pursuant to Subsection IWL may be performed during power operation as opposed to during a refueling outage will have no effect on the quality of the examination, but provides flexibility in scheduling the visual examination.

Option B of 10 CFR Part 50, Appendix J, requires licensees to perform a general visual examination before each Type A test (ILRT). The proposed change would require the licensee to perform the Option B visual examinations pursuant to ASME Code, Section XI, Subsections IWL and IWE, in lieu of the visual examinations required by Regulatory Position C.3 of RG 1.163. The NRC staff anticipates that the licensee will schedule CISI visual exams prior to each BSEP ILRT, such that one visual examination satisfies both the CISI and Option B requirements. The NRC staff concludes that this satisfies the intent of Regulatory Position C.3 of RG 1.163 and that additional visual examinations are not required.

3.3 Summary

The staff finds that the visual examinations of accessible exterior and interior surfaces of the containment system, performed pursuant to the requirements and frequency prescribed in ASME Code, Section XI, Subsections IWE and IWL, are sufficient to satisfy the requirements of 10 CFR Part 50, Appendix J, Option B, without requiring additional visual examinations pursuant to RG 1.163. The intent of early uncovering of evidence of structural deterioration will continue to be met by the more rigorous visual inspections required by IWE and IWL. Therefore, the staff concludes that the revision to TS 5.5.12 is 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 amendments change 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 amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (72 FR 68208). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). 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 Contributors: Brett Titus
George Thomas

Date: February 8, 2008