

March 9, 2005

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

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 - ISSUANCE
OF EXEMPTION FROM 10 CFR PART 50, APPENDIX J (TAC NOS. MC4879
AND MC4880)

Dear Mr. Gannon:

In response to your application dated October 6, 2004, the U.S. Nuclear Regulatory Commission has approved the enclosed exemption from specific requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix J. Specifically, this action permits Carolina Power & Light Company (the licensee, also doing business as Progress Energy Carolinas, Inc.) to exclude main steam isolation valve leakage from the overall integrated leakage rate test measurements required by Section III.A of Appendix J, Option B.

Based on its review, the staff finds that granting an exemption from the requirements of 10 CFR Part 50, Appendix J is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security, and that special circumstances described in 10 CFR 50.12(a) are present. Accordingly, your request has been granted for Brunswick Steam Electric Plant, Unit Nos. 1 and 2.

A copy of the exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Brenda L. Mozafari, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-325 and 50-324

Enclosure: Exemption

cc w/enclosure: See next page

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Brunswick Steam Electric Plant
Units 1 and 2

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
CAROLINA POWER & LIGHT COMPANY
DOCKET NOS. 50-325 AND 50-324
BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
EXEMPTION

1.0 BACKGROUND

The Carolina Power & Light Company (CP&L, the licensee) is the holder of Facility Operating Licenses Nos. DPR-71 and DPR-62, which authorize operation of the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The licenses provide, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC, the Commission) now or hereafter in effect.

The facility consists of two boiling-water reactors located in Brunswick County in North Carolina.

2.0 REQUEST/ACTION

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(o) requires that primary reactor containments for water-cooled power reactors be subject to the requirements of Appendix J to 10 CFR Part 50. Appendix J specifies the leakage test requirements, schedules, and acceptance criteria for tests of the leaktight integrity of the primary reactor containment and systems and components that penetrate the containment. Appendix J, Option B, Section III.A requires that the overall integrated leak rate must not exceed the allowable leakage (L_a) with margin, as specified in the Technical Specifications (TS). The overall integrated leak rate, as specified in the 10 CFR Part 50, Appendix J definitions, includes the contribution from main

steam isolation valve (MSIV) leakage. By letter dated October 6, 2004, the licensee has requested exemption from Option B, Section III.A requirements to permit exclusion of MSIV leakage from the overall integrated leak rate test measurement.

Option B, Section III.B of 10 CFR Part 50, Appendix J requires that the sum of the leakage rates of all Type B and Type C local leak rate tests be less than the performance criterion (La) with margin, as specified in the TS.

On May 30, 2002, the NRC issued Amendment Nos. 221 and 246 to the Facility Operating Licenses for BSEP, Units 1 and 2, respectively. These amendments revised the TS to replace the accident source term used in loss-of-coolant accident (LOCA), main steamline break (MSLB) accident, and control rod drop accident (CRDA) design-basis analyses with an alternate source term (AST) in accordance with 10 CFR 50.67, "Accident Source Term." On March 14, 2002, the NRC issued Amendment Nos. 218 and 244 for BSEP, Units 1 and 2, respectively, revising the facility TS to replace the accident source term used in the fuel handling accident (FHA) design-basis accident analyses with an AST in accordance with 10 CFR 50.67. In the previous design-basis accident radiological consequence analyses, MSIV leakage was added to the overall containment integrated leakage rate, as measured by the Type A test specified in 10 CFR 50, Appendix J, Option B. By Amendment Nos. 181 and 213 issued on February 1, 1996, for BSEP Units 1 and 2, respectively, the licensee was authorized to use the Option B provisions of 10 CFR Part 50, Appendix J.

Based on the Safety Evaluation supporting Amendment Nos. 221 and 246 issued on May 30, 2002, the NRC has accepted that MSIV leakage for design-basis accident analyses has been accounted for separately from the overall leakage associated with the primary containment boundary and overall doses meet appropriate regulatory limits. As such, the requirement of 10 CFR 50, Appendix J, Option B, Section III.A that MSIV leakage be included as part of the Type A test results is not necessary to achieve the underlying purpose of the rule;

that is, ensuring the actual radiological consequences of design-basis accidents remain below those analyzed as demonstrated through the measured containment leakage test.

3.0 DISCUSSION

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security, and (2) when special circumstances are present. Special circumstances are present whenever, according to 10 CFR Part 50.12(a)(2)(ii), "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. . . ."

The underlying purpose of the rule that implements Appendix J (i.e., 10 CFR 50.54(o)) is to assure that containment leaktight integrity is maintained (a) as tight as reasonably achievable, and (b) sufficiently tight so as to limit effluent release to values bounded by the analyses of radiological consequences of design-basis accidents. The revised design-basis radiological consequences analyses address these pathways as individual factors, exclusive of the primary containment leakage. The staff has determined that the intent of the rule is not compromised by the proposed action, and that 10 CFR 50.12(a)(2)(ii) applies.

4.0 CONCLUSION

Accordingly, the Commission has determined that pursuant to 10 CFR Part 50.12(a)(1), an exemption is authorized by law and will not present an undue risk to the public health and safety, is consistent with the common defense and security, and that there are special circumstances present, as specified in 10 CFR 50.12(a)(2). An exemption is hereby granted to CP&L, BSEP Units 1 and 2 from the requirements of Sections III.A and III.B of Option B of Appendix J to 10 CFR Part 50. The exemption allows exclusion of MSIV leakage from the

overall integrated leak rate test measurement.

Based on the foregoing, the separation of the main steam pathways from the other containment leakage pathways is warranted because a separate radiological consequence term has been provided for these pathways. The revised design-basis radiological consequences analyses address these pathways as individual factors, exclusive of the primary containment leakage. Therefore, the NRC staff finds the proposed exemption from Appendix J, to separate MSIV leakage from other containment leakage, to be acceptable.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment (70 FR 11034).

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Ledyard B. Marsh, Director
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland
this 9th day of March 2005