CP&L

Carolina Power & Light Company

P.O. Box 1551 • Raleigh, N.C. 27602

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10 CFR 50.90
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R. B. STARKEY, JR.
Vice President
Nuclear Services Department

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
REQUEST FOR LICENSE AMENDMENTS
TYPE A INTEGRATED LEAKAGE RATES

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company hereby requests a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2.

Technical Specification 4.6.1.2 specifies as found leakage limits for Type A leak rate testing for both reduced pressure and peak pressure tests. This limit is 75 per cent of the maximum integrated leakage limits, La or Lt. La is the designation given for the peak pressure limit, which is 0.5 per cent by weight of the Brunswick containment air per 24 hours at the peak pressure, 49 psig. Likewise, Lt is the maximum leakage limit at a reduced pressure, 25 psig.

These Technical Specification amendments to Specification 4.6.1.2 revise the acceptance criterion for as found Type A tests to the same value as the maximum allowable leakage rate, La, or the corresponding Lt, for BSEP Units 1 and 2.

Enclosure 1 provides a detailed description of the proposed changes and the basis for the changes.

Enclosure 2 details, in accordance with 10 CFR 50.91(a), the basis for the Company's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 3 provides an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental assessment needs to be prepared in connection with issuance of the amendments.

Enclosure 4 provides page change instructions for incorporating the proposed revisions.

Enclosure 5 provides the proposed Technical Specification pages for Unit 1.

Enclosure 6 provides the proposed Technical Specification pages for Unit 2.

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Carolina Power & Light Company is providing, in accordance with 10 CFR 50.91(b), Mr. Dayne H. Brown of the State of North Carolina with a copy of the proposed license amendments.

In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendments, once approved by the NRC, be issued with an effective date to be no later than 60 days from the issuance of the amendments.

Please refer any questions regarding this submittal to Mr. D. B. Waters at (919) 546-3678.

Yours very truly,

R. B. Starkey, Jr.

DAF/daf (appjspec)

Enclosures:

1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Environmental Considerations
4. Page Change Instructions
5. Technical Specification Pages - Unit 1
6. Technical Specification Pages - Unit 2

R. B. Starkey, Jr., having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Eleanor C. Chappell
Notary (Seal)

My commission expires: 2/6/96

ELEANOR C. CHAPPELL NOTARY PUBLIC WAKE COUNTY, N.C.

cc: Mr. Dayne H. Brown
Mr. S. D. Ebneter
Mr. R. H. Lo
Mr. R. L. Prevatte

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
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BASIS FOR CHANGE REQUEST

Background:

The objective of Appendix J Type A testing is to determine both the as found containment leakage condition and the final as left condition, if repairs were made. A satisfactory completion of a Type A test ensures that actual leakage rates (as left) do not exceed those rates assumed by accident analyses. The as found condition of the containment must then be measured to obtain an indication of the ability of the containment to remain leak tight throughout the period between tests and for the purpose of determining subsequent testing frequency.

Paragraph III.6(b) of Appendix J requires that if two consecutive periodic Type A tests fail to meet the applicable acceptance criteria in III.A.5(b), notwithstanding the periodic retest schedule in III.D, a Type A test shall be performed at each plant shutdown for refueling or approximately every 18 months, whichever occurs first, until two consecutive Type A tests meet the acceptance criteria in III.A.5(b), after which time the retest schedule specified in III.D may be resumed.

BSEP Unit 2 is currently in this "penalty" testing condition as required by Technical Specification section 4.6.1.2(b). Unit 2 has failed the past four Type A tests. The primary reason for failing these integrated leakage rate tests is considered to be the leakage penalty additions from Type C testing, where leakage rates from Type C testing are added into the integrated Type A test results. Discussions of the 1986 and 1988 failed Type A tests for Unit 2 can be found in CP&Ls letter to the NRC, dated May 23, 1989. The third Unit 2 failed test is discussed in NRC Inspection Reports 50-325/90-09 and 50-324/90-09, dated March 29, 1990 and the fourth Unit 2 failed test is discussed in NRC Inspection Reports 50-325/91-38 and 50-324/91-38, dated January 28, 1992.

Current Requirement:

Currently, Technical Specification 4.6.1.2.b specifies as found leakage limits for Type A leak rate testing for both reduced pressure and peak pressure tests. This limit is 75 per cent of the maximum integrated leakage limits, La or Lt. (La is the designation given for the peak pressure limit, which is 0.5 per cent by weight of the Brunswick containment air per 24 hours at the peak pressure, 49 psig. Likewise, Lt is the maximum leakage limit at the reduced pressure, 25 psig).

Proposed Change:

These Technical Specification amendments seek to revise the Type A test acceptance criterion for the as found containment integrated leakage rate from 0.75 La to 1.0 La (and 0.75 Lt to 1.0 Lt) for BSEP Units 1 and 2, which represents the maximum allowable containment leakage rate. Specification 4.6.1.2.b, Surveillance Requirements - Primary Containment Leakage, would be

revised to reflect this new acceptance criterion by deleting the 0.75 value in front of the La and Lt limits. In addition, further clarification is proposed to emphasize the La and Lt values as the as found leakage limits. This is proposed by incorporating the phrase "for the as found test leakage limit" after the La and Lt references in Specification 4.6.1.2.b.

Basis:

The objective of Appendix J Type A testing is to determine both the as found containment leakage condition and the final as left condition, if repairs are made. The satisfactory completion of a Type A test ensures that the actual leakage rates (as left) do not exceed 75 per cent of those rates assumed by the accident analyses. The as found condition of the containment is calculated to obtain an indication of the ability of the containment to remain leak-tight throughout the period between tests and for the purpose of determining the subsequent testing frequency.

The results of the Type A test are back-corrected using the "minimum pathway" leakage rate for each penetration. The difference between the local leakage measurements before and after the repair (to the leakage path) are added to the Type A results to determine the as found condition and possible as found Type A test failure, which could increase the future Type A test frequency as required by Section III.A.6 of Appendix J. This technique is known as the as found leakage savings additions. For a satisfactory Type A test, the corrected Type A results (the sum of the approximate local leakages and the Type A test results) must be less than 75 per cent of the maximum allowable leakage rate (La or Lt, as appropriate). It should be emphasized that this testing methodology remains unchanged by this amendment request. While the actions and surveillances also remain unchanged as a result of this request, the leakage limits in Surveillance Requirement 4.6.1.2 which refer to the as found limits would require revision to reflect the change from 0.75 La to La (and 0.75 Lt to Lt as well).

In proposing to use La or Lt as the acceptance criterion for the corrected as found leakage rate, it should be noted that La is the actual leakage rate used in the BSEP plant safety analysis to determine the offsite radiological consequences of an accident. The as left test limit of 0.75 La was specified in Appendix J in order to provide a margin of 0.25 La for possible deterioration of the containment leak-tightness between Type A tests. Since La is the actual number assumed in the offsite dose analysis, and the as found test measures the leakage rate at the end of the period between tests so that the margin for deterioration is no longer needed, it is technically acceptable to use La (or Lt) as the as found Type A test acceptance criterion.

It should be emphasized that in no instance is the plant to be returned to service if the total Type A leakage is greater than the current 0.75 La or 0.75 Lt (or the proposed La or Lt), as applicable.

In addition, NRC Inspection Report Nos. 50-325/91-38 and 50-324/91-38, dated January 28, 1991 noted that CP&L would pursue an Appendix J exemption to the 0.75 La limit for as found leakage and acknowledged the following regarding BSEP's Type A integrated leak rate testing:

- The NRC and industry recognize that the appropriate as found limit should be La (0.5 wt. percent per day for Brunswick).

- In a proposed revision to Appendix J now under review by the NRC the as found leakage limit has been changed to La.

- A number of plants including the CP&L H. B. Robinson plant have been granted the La limit.

As such, CP&L is also submitting an Appendix J exemption request (see letter NLS-92-339, dated December 29, 1992) concurrent with this Technical Specification amendment request.

Conclusion:

From the discussion and analysis presented above, it has been shown that the current as found leakage value of 0.75 La is overly conservative to use as the as found criterion in Type A test limits. The La limit is the actual leakage rate used in the BSEP plant safety analysis to determine the offsite radiological consequences of an accident. Using the 0.75 La limit has resulted in an unneeded containment leakage rate testing penalty for BSEP Unit 2. This accelerated testing frequency results in a longer outage time, increased outage costs, and does not result in a significant safety benefit. In addition, Type A testing incurs drywell structural stresses which would be minimized without penalty testing each refueling outage. While Unit 1 is not currently subjected to penalty testing, the 0.75 La (and 0.75 Lt) limit currently apply and, from the discussion provided above, are overly conservative to use for the as found criterion in Unit 1 Type A testing.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
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10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Pursuant to 10 CFR 50.91(a)(1), Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards consideration. The bases for this determination are as follows:

Proposed Change:

These Technical Specification amendments seek to revise the Type A test acceptance criterion for the as found containment integrated leakage rate from 0.75 La to 1.0 La (and 0.75 Lt to 1.0 Lt) for BSEP Units 1 and 2, which represents the maximum allowable containment leakage rate. Specification 4.6.1.2.b, Surveillance Requirements - Primary Containment Leakage, would be revised to reflect this new acceptance criterion by deleting the 0.75 value in front of the La and Lt limits. In addition, further clarification is proposed to emphasize the La and Lt values as the as found leakage limits. This is proposed by incorporating the phrase "for the as found test leakage limit" after the La and Lt references in Specification 4.6.1.2.b.

Basis:

The change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The limitations on primary containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure of 49 psig. Revising the Technical Specification value for the as found containment integrated leakage rate will not impact the accident evaluations discussed in Chapter 15 of the UFSAR. This is because the revised as found value is equal to the maximum allowed leakage, or La, as is assumed in the accident analyses. Therefore, the proposed amendments will not involve a significant increase in the probability of an accident previously evaluated.

   Since the containment is restricted by Technical Specifications to the proposed maximum allowable leakage rate, La, then it can be concluded that the proposed amendments are still

bounded by the existing accident analyses. While the 1.0 La/Lt limit represents a slightly higher containment leakage test tolerance, this is the bounding limit in the Chapter 15 analysis for accident consequences in Chapter 15. As such, the proposed amendments do not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendments do not create the possibility of a new or different kind of accident from any accident previously evaluated.

   In revising the Technical Specification restrictions on the as found containment leakage, the proposed amendments will not modify any safety-related equipment or safety functions and will not alter plant operation. In addition, the proposed amendments do not change surveillance frequencies for Type A testing (which could give rise to malfunctions due to prolonged surveillance (i.e., maintenance)) nor are the corrective actions for excessive as found leakage being changed. Allowing (1.0) La as the maximum as found containment leakage will not create new plant transients since La is within (i.e., equal to) the criterion of the maximum as found value as defined in 10 CFR 100 and referenced in Appendix J. Therefore, the proposed amendments do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendments do not involve a significant reduction in the margin of safety.

   While the proposed amendments revise the Technical Specification as found leakage by increasing the value from 0.75 La to (1.0) La, this increase is not significant. This is because La is the maximum containment leakage as defined by 10 CFR 100, referenced in Appendix J, and as currently defined in the BSEP Technical Specifications. As such, the proposed amendments will not alter any plant design margins. The 0.75 La value is unduly conservative and has resulted in unnecessary "penalty" testing for Unit 2. Revising the Technical Specification value to La will render the penalty testing less probable and, as such, will not subject the containment to unnecessary structural stresses and burdens of additional Type A testing. Therefore, the proposed amendments will not involve a significant reduction in the margin of safety.

ENCLOSURE 3

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
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ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (3) result in an increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed amendment meets 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 needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change:

These Technical Specification amendments seek to revise the Type A test acceptance criterion for the as found containment integrated leakage rate from 0.75 La to 1.0 La (and 0.75 Lt to 1.0 Lt) for BSEP Units 1 and 2, which represents the maximum allowable containment leakage rate. Specification 4.6.1.2.b, Surveillance Requirements - Primary Containment Leakage, would be revised to reflect this new acceptance criterion by deleting the 0.75 value in front of the La and Lt limits. In addition, further clarification is proposed to emphasize the La and Lt values as the as found leakage limits. This is proposed by incorporating the phrase "for the as found test leakage limit" after the La and Lt references in Specification 4.6.1.2.b.

Basis:

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendments do not involve a significant hazards consideration.

2. The proposed amendments do not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

   Containment functions (accident mitigation functions) are not impacted by these amendments as the containment is not being modified nor are the Type A tests conducted differently. As noted previously, the proposed amendments do not change surveillance frequencies for Type A testing or the corrective actions for excessive as found leakage.

Since accident mitigation functions are not impacted, effluent types and amounts associated with offsite accident releases are not affected. While the Technical Specification containment as found leakage limits would be slightly increased (from 0.75 La to 1.0 La) this increased limit would not result in an increase to routine operational effluents since surveillance frequencies are not being changed nor are plant operations impacted.

Therefore, the proposed amendments do not result in a significant change in the types nor a significant change in the amounts of any effluents that may be released offsite.

3. The proposed amendments do not result in an increase in individual or cumulative occupational radiation exposure.

The proposed amendments involve no plant or equipment modifications. The Type A testing procedure typically involves minimal personnel exposure which would be unaffected by the proposed change. Revising the Technical Specification allowable leakage value to La will render Unit 1 and 2 penalty testing less probable and, as such, will not subject the plant and personnel to the undue burdens of additional Type A testing.

Therefore, the proposed amendments do not result in an increase in individual or cumulative occupational radiation exposure.

ENCLOSURE 4

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
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PAGE CHANGE INSTRUCTIONS

UNIT 1

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UNIT 2

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