



Carolina Power & Light Company
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April 17, 1998

SERIAL: BSEP 98-0077
TSC 97TSB07

10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
WITHDRAWAL OF REQUEST FOR LICENSE AMENDMENT
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

Gentlemen:

In a letter dated May 23, 1997 (Reference 1), Carolina Power & Light (CP&L) Company requested a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. These proposed amendments revise Action Statements a.1 and a.2 of Technical Specification 3/4.4.5 by reducing the maximum allowed reactor coolant specific activity from 4.0 to 3.0 $\mu\text{Ci}/\text{gram}$ dose equivalent I-131. The purpose of this letter is to withdraw the May 23, 1997, request.

The proposed change to the maximum allowed reactor coolant specific activity was based on calculation 0VA-0105, Revision 3, "Main Steam Line Break Analysis, Control Room Dose Analysis To Support Power Uprate." This calculation determined that a reactor coolant peak specific activity of 3.0 $\mu\text{Ci}/\text{gram}$ dose equivalent I-131 resulted in a calculated thyroid dose of 25.5 rem. Calculation 0VA-0105 was revised and the new maximum calculated thyroid dose, assuming a reactor coolant peak specific activity of 4.0 $\mu\text{Ci}/\text{gram}$, is 16.2 rem, which is well below the General Design Criterion 19 limit of 30 rem thyroid.

The reduced thyroid dose is a result of removing an unnecessary conservatism from the calculation. Specifically, in 0VA-0105, Revision 3, X/Q (i.e., dispersion factor) was set to 1.0. The secondary release rate from the turbine building was set at one volume per second, which simulates the activity passing directly through the turbine building volume. However, this modeling technique did not consider that the AXIDENT code automatically accounts for the control room intake rate. The value of X/Q should have been set to 1.0 divided by the control room intake flow rate to properly ensure that the concentration of activity entering the control room is equal to the concentration of activity released from the turbine building. This

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conservatism has been removed and OVA-0105, Revision 5 is enclosed. The calculational methods and assumptions used in OVA-0105, Revision 5 are those committed to in Reference 2.

Based on the above, the existing technical specification limit of 4.0 $\mu\text{Ci}/\text{gram}$ is adequate and CP&L is withdrawing the proposed license amendments dated May 23, 1997. As previously committed (i.e., References 2, 3, and 4), CP&L will maintain an administrative limit of 0.1 $\mu\text{Ci}/\text{gram}$ dose equivalent I-131 for reactor coolant specific activity until the NRC approves the attached calculation. The administrative limit was implemented through a revision to plant procedure OAI-81, "Water Chemistry Guidelines."

No new regulatory commitments are contained in this document. Please refer any questions regarding this submittal to Mr. Warren J. Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,



Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

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Enclosure

OVA-0105, Revision 5, "Main Steam Line Break Analysis, Control Room Dose Analysis To Support Power Uprate"

References:

1. Letter from William Levis (CP&L) to the NRC Document Control Desk, (Serial: BSEP 97-0222), "Request For License Amendments, Reactor Coolant System Specific Activity," dated May 23, 1997.
2. Letter from William R. Campbell (CP&L) to the NRC Document Control Desk, (Serial: BSEP 97-0069), "Resolution of Control Room Issues," dated February 15, 1997.
3. Letter from William R. Campbell (CP&L) to the NRC Document Control Desk, (Serial: BSEP 97-0099), "Power Uprate - Response To A Request For Additional Information," dated February 28, 1997.
4. Letter from Keith R. Jury (CP&L) to the NRC Document Control Desk, (Serial: BSEP 97-0147), "Main Steam Line Break Control Room Dose Calculation," dated April 15, 1997.

cc (with enclosure):

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