

**CP&L**

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Carrollna Power & Light Company

Brunswick Steam Electric Plant  
P. O. Box 10429  
Southport, NC 28461-0429

October 3, 1984

FILE: B09-13510C  
SERIAL: BSEP/84-2047

Mr. James P. O'Reilly, Administrator  
U.S. Nuclear Regulatory Commission  
Suite 2900  
101 Marietta Street N.W.  
Atlanta, GA 30323

BRUNSWICK STEAM ELECTRIC PLANT UNITS 1 AND 2  
LICENSE NOS. DPR-71 AND DPR-62  
DOCKET NOS. 50-325 AND 50-324  
SUPPLEMENTAL RESPONSE - 10CFR21 DEFICIENCIES - STEAM LEAK DETECTION

Dear Mr. O'Reilly:

The purpose of this letter is to clarify CP&L's commitment for resolution of a design deficiency previously reported to your office pursuant to 10CFR21.

CP&L notified Region II by telephone and follow-up correspondence in April 1982, of an identified 10CFR21 deficiency involving certain piping systems outside the pipe tunnel. Specifically, a leak or break on the involved portions of piping would not be detected or isolated and, as such, could result in a limiting environmental condition for the Reactor Buildings.

By letter dated April 26, 1983 (Serial number: BSEP/83-1260), CP&L committed to develop and install required modification "... to meet the requirements of the Environmental Qualification program; i.e., the plant modifications will be installed by the completion of the second refueling outage on each unit after March 1982."

CP&L has received deferral of completion of certain environmental qualification requirements from ONRR for Unit 2. As such, the final resolution of the environmental qualification concerns will be deferred until the next major Unit 2 outage. Thus, CP&L's plan to develop and install the required

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modifications to resolve the subject deficiency will also be affected. CP&L has evaluated the referenced concern and provides the following information to support the continued operation of Brunswick Unit 2 until completion of the design fixes:

1. Extensive nondestructive examinations were performed to detect flaws associated with initial installation/construction. Additionally, in-service inspections have not detected flaws in the involved piping sections.
2. A credible crack propagation mechanism does not exist which could result in a significant crack formation except for a mechanism which takes years to develop.
3. Using analysis and data from NUREG-0803 and GE-NEDO-24342, the probability of a break in the piping is considered to be negligible.
4. The stress levels in the subject piping are well within code allowable limits for postulated breaks which makes the occurrence of cracks and/or breaks a remote possibility.
5. Independent building tours are performed by Operations and E&RC personnel each shift. These rounds would result in early detection and isolation of any steam leaks prior to a significant detrimental impact on the Reactor Building environment.
6. Multiple radiation monitors capable of detecting, even minor steam leaks exist. Experience has proven the capability of these monitors to detect leaks prior to the development of a significant detrimental impact on the Reactor Building environment.

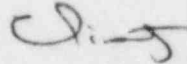
The lack of a credible crack propagation mechanism as determined by conservative design, original construction inspections, and in-service inspections makes the occurrence of a significant crack a highly unlikely event. The probability of such an event is negligible. However, if a crack were to develop, its propagation rate is such that the frequent, multiple building tours, diverse radiation monitoring, and excessive sump pumpage would detect a leak and result in isolation before it became significant. Even for the incredible instantaneous maximum crack, the large associated water flows for the HPCI or RWCU/RCIC breaks would alert the operator which would result in isolating the breaks in a time frame consistent with remaining bounded by the existing high energy line break analysis.

Mr. J. P. O'Reilly

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By correspondence dated September 28, 1984, the Office of Nuclear Reactor Regulation has approved CP&L's requested scheduler deferral for final resolution of the environmental qualification issue until November 30, 1985, for Unit 2. As such, CP&L plans to complete the development and installation of the modifications necessary to resolve this 10CFR21 concern on a schedule consistent with the final resolution of the environmental qualification issue.

Very truly yours,



C. R. Dietz, General Manager  
Brunswick Steam Electric Plant

TEC/dgr/LETKAL

Enclosure

cc: Mr. R. C. DeYoung  
NRC Document Control Desk