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SERIAL: BSEP 94-0428

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1  
DOCKET NO. 50-325 / LICENSE NO. DPR-71  
INSPECTION OF FEEDWATER NOZZLES AND SAFE ENDS

Gentlemen:

The purpose of this letter is to advise the NRC Staff of Carolina Power & Light Company's (CP&L) revised plans for replacement of the Unit 1 feedwater spargers and the associated impact on plans for replacement of the N4D feedwater nozzle.

By letter dated January 7, 1991, CP&L submitted the information from the nondestructive examination of the feedwater nozzles and safe ends performed during the 1990-1991 refueling outage (Reload 7) at the Brunswick Steam Electric Plant, Unit 1. This submittal identified a potential crack indication in the N4D feedwater nozzle.

By letter dated November 23, 1992, NLS-92-306, CP&L provided N4D nozzle examination results completed in July 1992, and informed the NRC Staff of plans to remove the Unit 1 feedwater nozzle N4D weld joint that contained the indication as part of the feedwater sparger replacement in Refueling Outage 9 (currently scheduled for Spring 1995). The examination performed in July 1992 did not show any discernable difference in ligament dimension or length when compared to data collected in 1990. Additionally, the examination confirmed that the indication is not connected to the inside diameter (ID) and does not have IGSCC characteristics.

In the November 23, 1992 letter to the NRC, CP&L also requested that the weldment be reclassified as NUREG-0313 Category D and that examinations be waived since the replacement was scheduled. The NRC concurred that the indication was not IGSCC and not connected to the ID in a safety evaluation dated May 20, 1993. The NRC also concurred with reclassifying the weldment as NUREG-0313 Category D and did not require CP&L to perform scheduled examinations of this weldment based on its planned replacement.

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Carolina Power & Light Company has performed inspections of the spargers and nozzle blend radius in accordance with NUREG-0619. Cracking has been identified at the sparger flow holes and circumferential welds joining the arms to the tees. No cracking has been identified in the blend radius by ultrasonic testing from the outside diameter, or liquid penetrant testing from the ID. The feedwater spargers are not safety-related equipment. A fracture mechanics analysis (NEDC 30634, Rev. 1) was performed for CP&L by General Electric which demonstrates that an assumed 0.25" deep crack in the nozzle blend radius will only reach a depth of 0.56" in a 40 year period. This result is less than the 1.0" limit specified in NUREG-0619. A copy of the fracture mechanics analysis is provided in Enclosure 1.

Based on the results of previous inspections and CP&L's commitment to perform future inspections, replacement of the Unit 1 feedwater spargers does not warrant the radiation exposure nor the resource commitment to perform the work. Therefore, CP&L no longer plans to replace the feedwater spargers, but rather perform continued examinations in accordance with NUREG-0619.

Since the feedwater spargers will not be replaced, the N4D nozzle is not planned for replacement. CP&L plans to resume inspections of the N4D nozzle in accordance with NUREG-0313 as a Category D weldment.

CP&L requests written concurrence with this action by February 1, 1995.

Please refer questions concerning this matter to Mr. R. P. Lopriore at (910) 457-2212.

Sincerely,



John Paul Cowan

SHC/shc (N4Dnozzl.req)

Enclosure

cc: Mr. S. D. Ebnetter, NRC Region II - Regional Administrator  
Mr. P. D. Milano, NRC/NRR Senior Project Manager - Brunswick  
Mr. C. A. Patterson, NRC Senior Resident Inspector - Brunswick  
The Honorable H. Wells, Chairman - North Carolina Utilities Commission