CP&L
A Progress Energy Company

MAR 2 3 2001

SERIAL: BSEP 01-0026

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION – REVISED EXCESS FLOW CHECK VALVE TESTING FREQUENCY (NRC TAC NOS. MB1048, MB1049, MB1056, AND MB1057)

Gentlemen:

By letter dated January 17, 2001 (Serial: BSEP 00-0164), Carolina Power & Light (CP&L) Company submitted a proposed license amendment and a proposed Inservice Testing (IST) Program relief request for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, to revise the testing frequency for excess flow check valves (EFCVs). The proposed license amendment incorporates Technical Specification Task Force (TSTF) Item Number 334, "Relaxed Surveillance Frequency For Excess Flow Check Valve Testing."

During a telephone conference with the NRC on February 14, 2001, the NRC requested CP&L to provide additional information in support of the EFCV submittal. CP&L's response to each NRC request is provided below.

NRC Item 1: Provide additional information to demonstrate that the EFCV testing failure rate for BSEP is bounded by the General Electric Nuclear Energy Topical Report B21-00658-01, "Excess Flow Check Valve Testing Relaxation."

CP&L Response:

Each BSEP unit is equipped with 89 EFCVs. CP&L has reviewed the surveillance test results from January 1, 1990, to January 31, 2001, for these valves. During this period, BSEP Unit 1 operated approximately 70,600 hours and BSEP Unit 2 operated approximately 74,070 hours (i.e., the operating hours based on generator online hours). No EFCV failures occurred during this time period. Based on this performance history, CP&L has concluded that the EFCVs are highly reliable and that their failure rate is bounded by Topical Report B21-00658-01.

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NRC Item 2: Provide clarification on the performance criteria being used for the EFCV monitoring program.

CP&L Response:

EFCV testing will follow the same 10-year interval as the IST Program. The current 10-year IST interval began on May 10, 1998. Since then, all of the EFCVs have been tested during Unit 1 and Unit 2 outages without failures.

BSEP is operating on a two year operating cycle (i.e., a refueling cycle approximately every 24 months); therefore, the EFCV population will be divided into five groups. This will result in testing of each EFCV every ten years. Since all of the EFCVs consist of the same model Valcor valve, the sample requirements of the TSTF submittal will be met. Testing procedures will be populated with valves from the five groups such that, during each outage, valves subject to steam conditions and valves subject to liquid conditions will be tested to ensure a representative cross section of valve applications/service conditions are tested.

Any EFCV testing failures will be documented in CP&L's Corrective Action Program. In the event of a failure of one EFCV in a testing group, testing of an additional group will be performed on EFCVs subject to similar conditions. If two or more EFCVs were to fail, the sample would expand to 100 percent of the EFCVs for the unit being tested. This expansion is conservative, but reasonable, based on the historical performance of EFCVs at BSEP.

After NRC approval of the proposed license amendment and relief request, CP&L plans to incorporate the performance criteria discussed above into the EFCV test procedures and into IST Program documents.

NRC Item 3: CP&L's January 17, 2001, submittal states that offsite radiological exposure from an unisolated instrument line rupture is bounded by the main steam line break analysis. Confirm whether an operational impact assessment has been performed for a postulated instrument line break.

CP&L Response:

CP&L has assessed the operational impact of a postulated instrument line break and concluded that the operational impact of an instrument line break will not be significant.

At BSEP, Units 1 and 2, each instrument line connected to the reactor coolant pressure boundary is equipped with an EFCV. For each of these instrument lines, a 0.25-inch flow-restricting orifice is provided. The operational impact of an instrument line break is based on the associated EFCV failing to close and the environmental effects of the resulting steam release in the vicinity of the instrument racks (i.e., inside the Reactor Building). The separation of equipment in the Reactor Building is expected to minimize the operational impact of the instrument line break on other plant equipment due to jet impingement.

CP&L has analyzed the resultant dose at the site boundary for a 0.75-inch, non-orificed line break, without credit for the Standby Gas Treatment system. The resultant exposure was 60 millirem whole body and 940 millirem thyroid. These values are well within the limits of 10 CFR 100 (i.e., an individual located at any point on the site boundary for two hours immediately following onset of the postulated fission product release would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure). The resultant dose for the line break, with credit for the 0.25-inch orifice and without credit for the Standby Gas Treatment system, is 0.1 millirem whole body and 1.7 millirem thyroid. A 0.25-inch flow-restricting orifice is provided for each instrument line at BSEP.

Based on the above, CP&L has concluded that the operational impact of an instrument line break will not be significant.

Please refer any questions regarding this submittal to Mr. Leonard R. Beller, Supervisor - Licensing, at (910) 457-2073.

Sincerely,

David C. DiCello

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WRM/wrm

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