CP&L
Carolina Power & Light Company

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

December 2, 1982

FILE: B09-13510E
SERIAL: BSEP/82-2644

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II, Suite 3100
101 Marietta Street N.W.
Atlanta, GA 30303

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 & 2
LICENSE NOS. DPR-71 AND DPR-62
DOCKET NOS. 50-325 AND 50-324
RESPONSE TO INFRACTIONS OF NRC REQUIREMENTS

Dear Mr. O'Reilly:

The Brunswick Steam Electric Plant (BSEP) has received IE Inspection Report 50-324/82-40 and 50-325/82-40 and finds that it does not contain any information of a proprietary nature.

The report identified one item that appears to be in noncompliance with NRC requirements. This item and Carolina Power and Light Company's response are addressed in the following text:

Violation: (Security Level V)

Technical Specification 3.5.1.C of Appendix B requires that sampling and analyses of liquid radioactive waste shall be performed in accordance with Table 3.5-1.

Contrary to the above, analyses of liquid radioactive waste were not performed in accordance with Table 3.5-1 in that the monthly composite samples for July 1981, February 1982, April 1982, July 1982, and August 1982 did not meet the required minimum detectable concentration for Sr-89. In addition, the composite sample analysis for Sr-90 did not meet the minimum detectable concentration for February 1982 and August 1982.

Carolina Power and Light Company's Response

Carolina Power and Light Company acknowledges that the failure to meet the minimum detectable concentration for Sr-89 and Sr-90 is a violation of NRC requirements. The inspector noted that Technical Specification Table 3.5-1 requires minimum detectable activity (MDA) of 5.0×10^{-8} µCi/ml for Sr-89 and Sr-90 analysis on the monthly radwaste liquid composite release samples. After review of the situation, other problem areas were discovered and are reported on Table 1.

Analysis for Sr-89 and Sr-90 are performed for BSEP by the Harris Energy and Environmental Center (HEEC) which is a corporate support facility. The HEEC reporting form does not indicate the BSEP technical specification requirements and thus comparison reviews were not adequate. The analysis difficulties were due to organic interferences from chelating and sequestering agents which are normally released from the plant detergent drain tanks. The composition of the release composite sample varies from month to month causing the severity of these interferences to fluctuate. These organic interferences have caused low yields in the strontium separation procedures which have resulted in higher than acceptable MDA values.

Corrective action has been initiated. A perchloric acid pretreatment step has been successfully demonstrated to eliminate the organic interferences and has resulted in acceptably high strontium separation yields ranging from 40% to 80%. Also, during the course of the chemical separation, the atomic absorption unit is being utilized to monitor the strontium carrier concentration to avoid sample loss.

Additional corrective actions include:

1. Revision of the HEEC report form to present BSEP technical specification required MDA values such that review is performed at every level through which the report travels.

2. The HEEC report will be routed to plant QA for review.

3. HEEC Sr-89 and Sr-90 chemical separation and activity calculation procedures will be revised to accommodate thorough review of all pertinent results.

4. BSEP E&RC procedure 1000, Sampling and Analysis Schedule for Radioactive and Nonradioactive Chemistry, has been revised to accommodate monthly liquid and gaseous composite samples. This revision will allow constant review by both management and the technicians.

5. BSEP E&RC procedure 1000 will be routed to QA for review on a monthly basis after completion.

HEEC and BSEP are in the process of making changes to all phases of the current methods. This process will require many computer software and procedural administrative changes; therefore, the corrective actions will not be completed until February 28, 1983.

Very truly yours,

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

RMP/CER/gvc/LETGC3

cc: Mr. R. C. DeYoung