

August 18, 1993

Docket Nos. 50-325
and 50-324

Mr. R. A. Anderson, Vice President
Carolina Power & Light Company
Brunswick Steam Electric Plant
Post Office Box 10429
Southport, North Carolina 28461

Dear Mr. Anderson:

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 - ENVIRONMENTAL
ASSESSMENT (TAC NOS. M85686 AND M85687)

Enclosed is a copy of the "Environmental Assessment and Finding of No Significant Impact" which relates to your submittal dated September 14, 1992, as supplemented January 13, January 25, February 8, May 11, May 16, May 21, June 18, July 8 and July 26, 1993. The amendment request would revise the Technical Specifications to reflect the replacement of existing Riley, GEMAC and Fenwal steam leak detection equipment with General Electric NUMAC leak detection equipment. The proposed amendments would also revise surveillance requirements for steam leak detection instrumentation associated with the reactor water cleanup system, the high pressure coolant injection system, and the reactor core isolation cooling system.

The staff has determined that the proposed changes do not alter any initial conditions assumed for the design basis accidents previously evaluated nor change operation of safety systems utilized to mitigate the design basis accidents.

The assessment has been forwarded to the Office of the Federal Register for publication.

Sincerely,
Original signed by:
C. E. Carpenter for:
Patrick D. Milano, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
Environmental Assessment

cc w/enclosure:
See next page

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Brunswick Steam Electric Plant
Units 1 and 2

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UNITED STATES NUCLEAR REGULATORY COMMISSION
BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
CAROLINA POWER & LIGHT COMPANY, ET AL.
DOCKET NOS. 50-325 AND 50-324
ENVIRONMENTAL ASSESSMENT AND
FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. DPR-71 and DPR-62 issued to Carolina Power & Light Company (CP&L or the licensee) for operation of the Brunswick Steam Electric Plant, Units 1 and 2 (BSEP), located in Brunswick County, North Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed amendments would revise the Technical Specifications (TS) to reflect the replacement of existing Riley, GEMAC and Fenwal steam leak detection equipment with General Electric NUMAC leak detection equipment. The proposed amendments would also revise surveillance requirements for the steam leak detection instrumentation associated with the reactor water cleanup system, the high pressure coolant injection system, and the reactor core isolation cooling system.

The Need for the Proposed Action:

The proposed changes are needed so modifications can be made to upgrade the steam leak detection system prior to startup from the current outage.

Environmental Impacts of the Proposed Action:

The staff has evaluated the proposed TS amendment and finds that the only line break for which the detection and/or mitigation action will be any different after the proposed modification is the reactor water cleanup (RWCU) cold leak, as mitigated by the differential flow instrumentation. The isolation delay on this break will be increased from 45 seconds to 30 minutes. The types of potential effluents remain unchanged. The increased isolation time delay will result in a proportional increase in the amount of potential effluent. General Electric has evaluated the consequences of a 300 gal/min RWCU system cold water leak remaining unisolated for 30 minutes in its report GE-NE-770-14-0592, which was docketed by the licensee January 13, 1993. The staff performed independent calculations, utilizing a reactor coolant concentration of 4 uCi/gm as the concentration for the release. This value was chosen because the coolant concentration could be this high before technical specifications require the unit to be shut down. Based upon this coolant concentration, a partition factor of 0.1 and a 300 gallon/min release rate for 30 minutes, doses were calculated. Thyroid doses 11.9, 5.9, and 1.2 rem, were calculated for the control room operators, the members of the public at the site boundary, and the low population zone, respectively. These doses are within the limits of 10 CFR Part 100 and are acceptable and demonstrate that changing the RWCU system isolation differential flow time delay trip setpoint and the allowable value from less than or equal to 45 seconds to less than or equal to 30 minutes is acceptable from a radiological dose aspect. Therefore, there will not be a significant increase in the types or amounts of any effluent that may be released offsite.

The proposed changes do not increase the probability or consequences of accidents. The staff has determined that the proposed changes do not alter any initial condition assumed for the design basis accidents previously evaluated or change operation of safety systems utilized to mitigate the design basis accidents. No changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in the allowable individual or cumulative occupational radiation exposure. Accordingly, the staff concludes that proposed action would result in no significant radiological environmental impact.

With regard to potential nonradiological impacts, the proposed changes to the TS involve components in the plant which are located within the restricted area as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the staff concludes that there are no significant nonradiological environmental impacts associated with the proposed amendments.

Alternatives to the Proposed Action:

Since the Commission has concluded that there are no significant environmental effects that would result from the proposed actions, any alternatives with equal or greater environmental impacts need not be evaluated. The principal alternative would be to deny the licensee's

request for amendments. This would not reduce environmental impacts of plant operation.

Alternative Use of Resources:

This action does not involve the use of resources not previously considered in the Final Environmental Statement (FES) for the Brunswick Steam Electric Plant, Units 1 and 2, dated January 1974.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

The staff consulted with the State of North Carolina regarding the environmental impact of the proposed action. The State had no comments.

FINDING OF NO SIGNIFICANT IMPACT

Based on the foregoing environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed license amendments.

For further details with respect to this action, see the application for amendment dated September 14, 1992, as supplemented January 13, January 25, February 8, May 11, May 16, May 21, June 18, July 8 and July 26, 1993, which is available for public inspection in the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555, and the local public document room located at the University of North Carolina at Wilmington, William Madison Randall Library, 601 S. College Road, Wilmington, North Carolina 28403-3297.

Dated at Rockville, Maryland this 18th day of August 1993.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, reading "S. Bajwa", with a horizontal line drawn underneath the name.

Singh S. Bajwa, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation