

JAN 22 1988

Docket No. 50-324

Mr. E. E. Utley  
Senior Executive Vice President  
Power Supply and Engineering & Construction  
Carolina Power & Light Company  
Post Office Box 1551  
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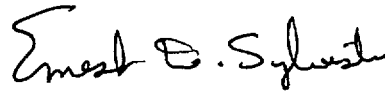
Dear Mr. Utley:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT - EXEMPTION FROM REQUIREMENTS OF 10 CFR 50.62(c)(4) MINIMUM FLOW CAPACITY AND BORON CONCENTRATION FOR THE LIQUID STANDBY CONTROL SYSTEM (SLCS) - BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2 (TAC NO. 66084)

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact" for your information. This assessment relates to your application dated August 17, 1987, by which you requested an exemption from the requirements of 10 CFR 50.62(c)(4) for the Brunswick Steam Electric Plant, Unit 2.

This Environmental Assessment has been forwarded to the Office of the Federal Register for publication.


Sincerely,





Ernest Sylvester, Project Manager  
Project Directorate II-1  
Division of Reactor Projects I/II

Enclosure:  
Environmental Assessment

cc w/enclosure:  
See next page

  
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UNITED STATES NUCLEAR REGULATORY COMMISSION  
CAROLINA POWER AND LIGHT COMPANY  
BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2  
DOCKET NO. 50-324  
ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an exemption from the requirements of 10 CFR Part 50.62(c)(4) to Carolina Power & Light Company (the licensee), for Unit 2 of the Brunswick Steam Electric Plant located in Brunswick County, North Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

The exemption would grant relief from 10 CFR 50.62(c)(4) to allow the Brunswick plant to use an injection rate of 66 gallons per minute of 13 weight percent sodium pentaborate solution in the standby liquid control system (SLCS).

The licensee's exemption request and the bases therefor are contained in a letter dated August 17, 1987.

The Need for the Proposed Action:

The exemption is needed because the licensee proposes to depart from 10 CFR 50.62(c)(4) requirements, as a result of the Brunswick Steam Electric Plant having a reactor vessel diameter which is smaller than that used to establish the minimum flow and boron content requirements set forth in the regulation. The Brunswick Plant uses an injection rate of 66 gallons per minute of 13

weight percent sodium pentaborate solution because its vessel diameter is 218 inches, as opposed to 251 inches which is the basis for the 86 gallons per minute requirement.

Generic Letter 85-03, "Clarification of Equivalent Control Capacity for Standby Liquid Control Systems," dated January 28, 1985 states, in part:

The "equivalent in control capacity" wording was chosen to allow flexibility in implementation of the requirement.

The 86 gallons per minute and 13 weight percent sodium pentaborate concentration were values used in NEDE-24222, "Assessment of BWR Mitigation of ATWS, Volumes I and II," December 1979 for BWR/4, BWR/5, and BWR/6 plants with 251-inch diameter vessels. NEDE-24222 recognized that different values would provide equivalent control capacity for smaller plants, and cited 66 gallons per minute in a 218-inch diameter vessel plant as equivalent to 86 gallons per minute in a 251-inch inside diameter vessel plant.

Environmental Impacts of the Proposed Action:

The exemption provides a degree for protection of the Brunswick reactor equivalent to that required by the regulation for reactors with larger reactor vessels for prompt injection of negative reactivity into a boiling water reactor pressure vessel in the event of an Anticipated Transient Without Scram (ATWS). This exemption will not affect containment integrity, nor the probability of facility accidents. Thus, post-accident radiological releases will not be greater than previously determined, nor will the granting of the proposed exemption otherwise effect radiological plant effluents, or result in any significant occupational exposure. Likewise, the exemption will not affect non-radiological environmental impacts associated with the proposed exemption.

Alternatives to the Proposed Action:

Because it has been concluded that there is no measurable environmental impact associated with the proposed exemption, any alternatives to the exemption will have either no environmental impacts or greater environmental impacts.

The principal alternative to granting the exemption would be to deny the requested exemption. Such action would not reduce environmental impacts of the Brunswick Steam Electric Plant, Unit 2, operations and would not enhance the protection of the environment.

Alternative Use of Resources:

This does not involve the use of resources not previously considered in connection with the Final Environmental Statement for 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.

FINDING OF NO SIGNIFICANT IMPACT

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

For further information with respect to this action, see the application for exemption dated August 17, 1987, which is available for public inspection at the Commission's Public Document Room, 1717 H Street, NW, Washington, D.C.

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and at the University of North Carolina at Wilmington, William Madison Randall  
Library, 601 S. College Road, Wilmington, North Carolina 28403-3297.

Dated at Bethesda, Maryland, this 25th day of January 1988.  
FOR THE NUCLEAR REGULATORY COMMISSION

**Original Signed By**  
**Elinor G. Adensam**

Elinor G. Adensam, Director  
Project Directorate II-1  
Division of Reactor Projects I/II

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Mr. E. E. Utley  
Carolina Power & Light Company

Brunswick Steam Electric Plant  
Units 1 and 2

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