

UNITED STATES NUCLEAR REGULATORY COMMISSIONCAROLINA POWER & LIGHT COMPANY, et al.BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2DOCKET NO. 50-324ENVIRONMENTAL ASSESSMENT ANDFINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-62 issued to the Carolina Power & Light Company (the licensee), for operation of Brunswick Steam Electric Plant, Unit 2, located in Brunswick County, North Carolina.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed amendment would revise the provisions in the Technical Specifications (TS) relating to extended fuel irradiation.

The proposed action is in accordance with the licensee's application dated September 4, 1987, as supplemented September 25, 1987 and October 2, 1987.

The Need for the Proposed Action:

The proposed changes are needed to allow the licensee the flexibility of extending the fuel irradiation, thereby permitting operation with longer fuel cycles.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed revisions to the TS. The proposed revisions would permit use of fuel which would be irradiated to levels above 33 gigawatt days per metric ton (GWD/MT) but not to exceed 60 GWD/MT.

The safety considerations associated with reactor operation with extended irradiation have been evaluated by the NRC staff. The staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no adverse effect on the probability of any accident. The increased burnup may slightly change the mix of fission products that might be released in the event of a serious accident, but such small changes would not significantly affect the consequences of serious accidents. No changes are being made in the types or amounts of any radiological effluents that may be released offsite. There is no significant increase in the allowable individual or cumulative occupational radiation exposure.

With regard to potential nonradiological impacts of reactor operation with extended irradiation, the proposed changes to the TS involve systems located within the restricted area, as defined in 10 CFR Part 20. They do not affect nonradiological plant effluents and have no other environmental impact.

The environmental impacts of transportation resulting from the use of higher enrichment fuel and extended irradiation are discussed in the staff assessment entitled, "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation," which was published in the Federal Register on August 11, 1988 (53 FR 30355) in connection with the Shearon Harris Nuclear Power Plant, Unit 1, Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of transportation of the increases in the fuel enrichment up to 5% and irradiation limits up to 60 GWD/MT are either unchanged or may, in fact, be reduced from those summarized in Table S-4, as set forth in 10 CFR 51.52(c). These findings are applicable to this amendment for the Brunswick Steam Electric Plant, Unit 2.

Therefore, the Commission concludes that there are no significant radiological or nonradiological environmental impacts associated with the proposed amendment.

Alternative to the Proposed Action:

Since the Commission has concluded that there are no significant environmental effects that would result from the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts of plant operation and would result in reduced operational flexibility.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the "Final Environmental Statement related to the continued construction and proposed issuance of an operating license 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.

FINDING OF NO SIGNIFICANT IMPACT

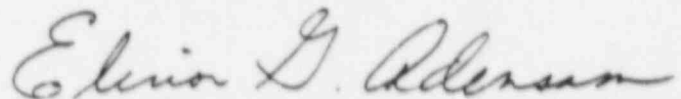
The Commission has determined not to prepare an environmental impact statement for the proposed license amendment.

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further information with respect to this action, see the application for the amendment dated September 4, 1987, as supplemented September 25 and October 2, 1987, which is available for public inspection at the Commission's Public Document Room, 1717 H Street NW, Washington, D. C. and 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 29th day of August, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION



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

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Dated at Rockville, Maryland, this 29th day of August, 1988.

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Elinor G. Adensam, Director  
Project Directorate II-1  
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Office of Nuclear Reactor Regulation

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8/25/88*

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| DATE | : 8/17/88    | : 8/17/88        | : 8/17/88       | : 8/22/88   | : |