

December 28, 1994

Mr. C. S. Hinnant, Vice President  
Carolina Power & Light Company  
H. B. Robinson Steam Electric Plant,  
Unit No. 2  
Post Office Box 790  
Hartsville, South Carolina 29551-0790

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT  
REGARDING INCREASED FUEL ENRICHMENT - H. B. ROBINSON STEAM ELECTRIC  
PLANT, UNIT NO. 2 (TAC NO. M89999)

Dear Mr. Hinnant:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact for your information. This assessment relates to your letter dated July 28, 1994, requesting an amendment to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2, to change the Technical Specifications to allow for the storage of fuel with an enrichment not to exceed 4.95 + 0.05 w/o U-235 in the new and spent fuel storage racks.

The Environmental Assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

Brenda L. Mozafari, Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-261

Enclosure: Environmental Assessment

cc w/enclosure: See next page

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Carolina Power & Light Company

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UNITED STATES NUCLEAR REGULATORY COMMISSION  
CAROLINA POWER & LIGHT COMPANY  
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261  
ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-23 issued to Carolina Power & Light Company (the licensee) for operation of H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR), located in Darlington County, South Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action

The proposed amendment would include provisions in Technical Specifications (TS) 5.3 and 5.4 which allow for the storage of fuel with an enrichment not to exceed  $4.95 + 0.05$  w/o U-235 in the new and spent fuel storage racks. The proposed action is in accordance with the licensee's application for amendment dated July 28, 1994.

The Need for Proposed Action:

The proposed changes are needed so that the licensee can use higher fuel enrichment to provide the flexibility of extending the fuel irradiation and to permit operation for 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 enriched to a nominal 5.0 weight percent Uranium 235. The safety considerations associated with reactor operation with higher enrichment and 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 higher enrichment, with fuel burnup to 60,000 megawatt days per metric ton Uranium, 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 higher enrichment and 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 were published and discussed in the staff assessment entitled, "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation," dated July 7, 1988, and published in the Federal Register (53 FR 30355) on August 11, 1988. As indicated therein, the environmental cost contribution of

the proposed increase in the fuel enrichment and irradiation limits 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). Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed amendment.

With regard to potential nonradiological impacts, the proposed action does involve features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect non-radiological plant effluents and has no other environmental impact. Accordingly, the Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed action.

#### Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any other alternative would have equal or greater environmental impacts and need not be evaluated.

The principal alternative would be to deny the requested amendments. This would not reduce the environmental impact of plant operations 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 operation of HBR.

#### 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 amendments.

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 details with respect to this action, see the application for amendments dated July 28, 1994, that is available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the local public document room for the H. B. Robinson Steam Electric Plant, Unit No. 2, at Hartsville Memorial Library, 147 West College, Hartsville, South Carolina 29550.

Dated at Rockville, Maryland, this 28 th day of December 1994.

FOR THE NUCLEAR REGULATORY COMMISSION



Byron L. Siegel, Acting Director  
Project Directorate II-1  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation