

May 21, 1991

Docket No. 50-261

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Mr. Lynn W. Eury
Executive Vice President
Power Supply
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Eury:

SUBJECT: ISSUANCE OF AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. DPR-23 REGARDING LICENSE EXPIRATION DATE EXTENSION - H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2, (TAC NO. 66079)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 135 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2., in response to your request dated August 17, 1987, as supplemented July 9, 1990, and October 12, 1990.

The amendment the expiration date for Facility Operating License No. DPR-23 from April 13, 2007 to July 31, 2010.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's bi-weekly Federal Register notice.

Sincerely,

Original signed by:

Ronnie H. Lo, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Enclosures:

- 1. Amendment No. 135 to DPR-23
- 2. Safety Evaluation

cc w/enclosures:
See next page

*See previous concurrence

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AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. DPR-23 - ROBINSON,
UNIT NO. 2

Docket File

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H. B. Robinson Steam Electric
Plant, Unit No. 2

cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 135
License No. DPR-23

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power & Light Company (the licensee), dated August 17, 1987, as supplemented July 9, 1990, and October 12, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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- 2. Accordingly, Facility Operating License DPR-23 is hereby amended by changing paragraph 5 as follows:
 - 5. This amended license is effective as of the date of issuance and shall expire at midnight July 31, 2010.
- 3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Anthony J. Mendiola, Acting Director
 Project Directorate II-1
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Date of Issuance: May 21, 1991

* See previous concurrence

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NAME	: PAAnderson* :RLo*:	:R Becker*	: RBachmann* AMendiola	:	:
DATE	: 3/15/91	: 3/26/91	: 3/19/91	: 3/27/91	: 5/24/91

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY-EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING-AMENDMENT-NO. -135- TO-FACILITY-OPERATING-LICENSE-NO. -DPR-23

CAROLINA-POWER-&-LIGHT-COMPANY

H. -B. -ROBINSON-STEAM-ELECTRIC-PLANT, -UNIT-NO. 2

DOCKET-NO. -50-261

1.0 INTRODUCTION

By letter dated August 17, 1987, as supplemented July 9, 1990, and October 12, 1990, the Carolina Power & Light Company (CP&L) submitted a request for a change to the H. B. Robinson Steam Electric Plant, Unit No. 2, (HBR-2) Facility Operating License (OL). The amendment would change the expiration date for the OL from April 13, 2007, to July 31, 2010, an extension of three years and 3 months. The amendment request was supplemented at the request of the staff on July 9, 1990, to provide additional information related to the environmental impacts of the extension. The request was further supplemented by letter dated October 12, 1990, that related to a minor administrative change related to an intervening license amendment. These letters provided clarifying information which did not change the initial determination of no significant hazards consideration published in the Federal Register.

2.0 EVALUATION

Section 103.c of the Atomic Energy Act (the Act) of 1954 provides that a license is to be issued for a specified period not to exceed 40 years. 10 CFR 50.51 also specifies that each license will be issued for a fixed period of time, to be specified in the license, not to exceed 40 years from date of issuance. Code of Federal Regulations, Title 10, Section 50.57 allows the issuance of an operating license pursuant to 10 CFR 50.56 for the full term specified in 10 CFR 50.51 in conformity with the construction permit (CP) and when other provisions specified in 10 CFR 50.57 are met. The current term of the license for the HBR-2 is 40 years commencing with the issuance of the CP. This represents an effective operating term of 36 years and 9 months, not 40 years. Consistent with the Act and our rules, as noted above, the licensee seeks an extension of the OL term for HBR-2 so the fixed period of the license would be 40 years from the date of issuance of the OL.

Current NRC policy is to issue operating licenses for a 40 year term, commencing with the date of issuance of the OL. For HBR-2 this date was July 31, 1970. Thus a 40 year term would change the expiration date from April 13, 2007 to July 31, 2010 for an extension of the three years and three month, the interval between issuance of the CP and OL.

The licensee's request for extension of the operating license is based, in part, on the fact that a 40-year service life was considered during the design and construction of the plant. Although this does not mean that some components will not wear out during the plant lifetime, design features were incorporated which maximize the inspectability of structures, systems and equipment. Surveillance, inspectability and maintenance practices which were implemented in accordance with the American Society of Mechanical Engineers (ASME) Code for Inservice Inspection and Inservice Testing of Pumps and Valves assure that all components are capable of performing their design function when required. The facility Technical Specifications (TS) provide assurance that any unexpected degradation in plant equipment will be identified and corrected. The specific provisions and requirements for ASME Code testing are set forth in 10 CFR 50.55a.

By letter dated December 22, 1988, as required by 10 CFR 50.61, the licensee submitted its evaluation of the HBR-2 reactor vessel with respect to fracture toughness requirements for protection against pressurized thermal shock events. In the evaluation, the licensee found that the reactor vessel meets the fracture toughness requirements of 10 CFR 50.61 for 95 effective full power years of operation.

The staff has accepted the licensee's evaluation and, based on that acceptance, has informally granted an extension of the deadline for the HBR-2 response to Generic Letter (GL) 88-11, "NRC Position on Radiation Embrittlement of Reactor Vessel Materials and Its Impact on Plant Operations (Generic Letter 88-11)," and Regulatory Guide (RG) 1.99, Revision 2, "Radiation Embrittlement of Reactor Vessel Materials." GL 88-11 and RG 1.99, Revision 2, collectively, require a recalculation of the heatup and cooldown curves and associated fracture toughness parameters in the plant TS using the most current methodology as represented by RG 1.99, Revision 2. The licensee is currently in the process of recalculation related to the reactor vessel fracture toughness as reflected in the TS. In addition, the rule provides a pressurized thermal shock screening criterion of 300°F maximum for the critical circumferential materials in the HBR-2 reactor vessel; the actual value of 283°F is derived from the equation specified in the rule. On the basis of the above, the staff finds that the reactor vessel for the HBR-2 meets the criteria of 10 CFR 50.61 for the requested license extension to a 40 year operating life.

Aging analyses have been performed by the licensee for all safety-related electrical equipment in accordance with 10 CFR 50.49, "Environmental qualification of electrical equipment important to safety for nuclear power plants," identifying qualified lifetimes for this equipment. These lifetimes have been incorporated into plant equipment maintenance and replacement practices to ensure that all safety-related electrical equipment remains qualified and available to perform its safety function regardless of the overall age of the plant.

A service life well in excess of 40 years is anticipated for HBR-2 facility structures. Inspection of critical structures has identified no signs of deterioration in structural integrity. Considering the experience in other industries with similarly designed structures, the conservatisms inherent in the design, construction, and operation of the facility, and the adequacy of the HBR-2 preventive maintenance program to maintain the margins of safety identified in the TS, an additional three years and three months of operation will have no significant safety impact on plant structures.

The staff has also reviewed the Final Safety Analysis Report (FSAR) for the plant. Many safety-related changes have been made to the plant since it went on line in 1971. Each of these changes, where it involved a safety-related component, has been reviewed and approved by the staff. Further, as required by 10 CFR 50.71(e), these changes and their effect on accident analysis, if any, are routinely updated in the FSAR. Our review of the FSAR for the facility has not identified any concerns associated with approval of the proposed amendment to extend the expiration date of the license that are not already addressed by licensee commitments, operating procedures, or license requirements.

The Exclusion Area for the HBR-2 consists of property owned by CP&L. The licensee has the authority to control activities within the Exclusion Area and anticipates no changes to the Exclusion Area boundary during the extended license period. Changes in population within the Low Population Zone (LPZ), the nearest population center distances and the 10 mile radius Emergency Planning Zone (EPZ) have been evaluated by the staff and have been found not to be significant for the period of the license extension. The details of the staff's review are contained in the associated Environmental Assessment dated _____, 1991.

Accordingly, the staff's conclusions regarding 10 CFR Part 100 siting criteria for the HBR-2 are that the exclusion area, LPZ, and population center distances meet the guidelines of 10 CFR Part 100 and are not changed by the proposed license extension.

Based on the above, the staff finds the proposed extensions of the expiration date of the Facility Operating License DRP-23 for HBR-2 to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

A Notice of Issuance of an Environmental Assessment and Finding of No Significant Impact relating to the proposed extension of the Facility Operating License expiration date of the HBR-2 was published in the Federal Register on May 21, 1991 (56 FR 23309).

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration, which was published in the FEDERAL REGISTER (55 FR 40460) on October 3, 1990, and consulted with the State of South Carolina. No public comments or requests for hearing were received, and the State of South Carolina did not have any comments. The staff has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: May 21, 1991

Principal Contributor: R. Becker