September 5, 1995

Mr. C. S. Hinnant, Vice President
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Unit No. 2
3581 West Entrance Road
Hartsville, South Carolina 29551-0790

SUBJECT: ISSUANCE OF AMENDMENT NO. 166 TO FACILITY OPERATING LICENSE NO. DPR-23 REGARDING OPERABILITY OF CHARGING PUMPS DURING POWER OPERATION - H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 (TAC NO. M92502)

Dear Mr. Hinnant:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 166 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR). This amendment changes the Technical Specifications in response to your request dated June 3, 1995, as supplemented by your letter dated August 7, 1995. The change clarifies the definition of operability of the charging pumps by adding a footnote to TS Section 3.2.2.a that states that the connectibility of the emergency power sources is not required for charging pump operability. The bases statement for TS 3.2.2 is also changed for clarification.

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:

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

Docket No. 50-261

Enclosures:
1. Amendment No. 166 to DPR-23
2. Safety Evaluation

cc w/enclosures: See next page

Distribution: See next page

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OFFICE	LA:PDII-1	PM:PDII-1	OGC	D:PDII-1	EELB
NAME	Dunnington	BMozafari		DMatthews	JCalvo
DATE	8/10/95	8/10/95	8/23/95	9/5/95	8/18/95
COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

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Mr. C. S. Hinnant
Carolina Power & Light Company

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

cc:

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DATED September 5, 1995

AMENDMENT NO. 166 TO FACILITY OPERATING LICENSE NO. DPR-23 - H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

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cc: Robinson Service List

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

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

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 166
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 June 3, 1995, as supplemented on August 7, 1995, 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.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 3.B. of Facility Operating License No. DPR-23 is hereby amended to read as follows:

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B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 166 , are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

D.C. Trimble for

David B. Matthews, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 5, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 166

FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages	Insert Pages
3.2-1	3.2-1
3.2-4	3.2-4

3.2 CHEMICAL AND VOLUME CONTROL SYSTEM

Applicability

Applies to the operational status of the Chemical and Volume Control System.

Objective

To define those conditions of the Chemical and Volume Control System necessary to ensure safe reactor operation.

Specification

3.2.1 When fuel is in the reactor there shall be at least one flow path to the core for boric acid injection. The minimum capability for boric acid injection shall be equivalent to that supplied from the refueling water storage tank.

3.2.2 The reactor shall not be made critical unless the following Chemical and Volume Control System conditions are met:

a. Two charging pumps shall be operable[1].

b. Both boric acid transfer pumps shall be operable.

c. The boric acid tanks together shall contain a total minimum of 3080 gallons of 20,000 to 22,500 ppm boron solution at a temperature of at least 145°F.

d. System piping, instrumentation, controls, and valves shall be operable to the extent of establishing one flow path from the boric acid tanks and one flow path from the refueling water storage tank to the Reactor Coolant System.

[1]The Emergency Power sources are not required for operability of the charging pumps.

c. The safety injection pumps can take their suction from the refueling water storage tank.

System reliability is reduced when two of the three charging pumps are out of service; therefore, the outage time has been limited. Since credit is not taken for the charging pumps as accident mitigation equipment (i.e., engineered safety feature equipment assumed to function in an accident analyzed in the Final Safety Analysis Report (FSAR), Chapter 15), operability of the respective emergency electrical power source (i.e., emergency diesel generator) is not necessary for the operability of a charging pump.

The quantity of boric acid in storage from either the boric acid tanks or the refueling water storage tank is sufficient and fast enough to borate the reactor to cold shutdown at any time during core life. Thus, the out of service interval for the boric acid pumps is considered conservative since borated water is also available from the refueling water storage tank via the charging pumps. Approximately 2640 gallons of the 20,000 to 22,500 ppm boron solution are required to meet cold shutdown conditions.[2] Thus a minimum of 3080 gallons in the boric acid tanks is specified. An upper concentration limit of 13% boric acid (22,500 ppm) in the tank is specified to maintain solution solubility at the specified low temperature limit of 145°F. Two channels of heat tracing are installed on lines normally containing concentrated boric acid solution to maintain the specified low temperature limit. The plant operating procedures require immediate action to effect repairs of an inoperable component; therefore, in most cases repairs will be completed in less than the specified repair time.

When borating to the cold shutdown condition using boric acid from the boric acid tanks, make up water must be supplied to compensate for shrinkage of the reactor coolant. Sufficient water for this purpose must be maintained in the primary water storage tank and the refueling water storage tank as required in 3.2.2.f and 3.3.1.1.a.

The overall reliability of the chemical and volume control system is improved by its normal mode of operation, i.e., at least one charging pump, one boric acid transfer pump and one boric acid tank are in continuous operation.

The plant operating procedures will require immediate action to effect repairs of an inoperable component and, therefore, in most cases repairs

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 166 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 June 3, 1995, Carolina Power & Light Company (licensee) submitted a request for changes to the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR), Technical Specifications (TS). The requested changes would clarify the definition of operability of the chemical and volume control system (CVCS) charging pumps by adding a footnote to TS Section 3.2.2.a that states that "The Emergency Power sources are not required for operability of the charging pumps." The bases statement for TS 3.2.2 is also changed for clarification. A correction of a minor typographical error at the top of TS page 3.2-4 is also proposed. By letter dated August 7, 1995, the licensee requested the correction of an additional typographical error on TS page 3.2-4 unrelated to the original proposed change.

2.0 EVALUATION

One of the design functions of the CVCS charging pumps is to maintain the proper water inventory in the reactor coolant system. Through this function, a small-break loss-of-coolant accident can be accommodated by the charging pumps. Thus, the charging pumps are used to perform emergency core cooling system (ECCS) function for some Westinghouse plants. The power supply for two of the three CVCS charging pumps are powered by both normal and emergency power sources, while the third pump is powered from only normal power source.

The staff reviewed HBR's ECCS in the final safety analysis report (FSAR) and the CVCS functions in Chapter 15 (accident analysis) of the FSAR. The staff found that the ECCS function is performed by the three passive cold leg accumulators, three safety injection (high head) pumps, and two residual heat removal (low head) pumps. Thus, the CVCS charging pumps at HBR are neither designed to perform an ECCS functions nor credited in the accident analysis.

Based on the fact that the charging pumps at HBR do not perform an ECCS function, the staff finds that normal power alone is sufficient for these pumps to meet their operability requirements. Thus, the staff concludes that the proposed footnote to the TS section 3.2.2.a, which states "The Emergency Power sources are not required for the operability of the charging pumps," is acceptable.

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In addition, the staff also reviewed the proposed bases statement for TS 3.2.2 which states "Since credit is not taken for the charging pumps as accident mitigation equipment, operability of the respective emergency electrical power source is not necessary for the operability of a charging pump." The staff finds that the proposed bases statement supports and clarifies the footnote in TS section 3.2.2.a. Therefore, the staff concludes the proposed bases statement for TS 3.2.2 to be acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of South Carolina official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 . The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 35063). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: P. Kang
B. Mozafari

Date: September 5, 1995