

May 6, 1986

Docket No. 50-261

DISTRIBUTION

Mr. E. E. Utley, Senior Executive Vice President
Power Supply and Engineering & Construction
Carolina Power and Light Company
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E. Jordan	Gray File
L. Lois	<i>L. Tremper</i>

Dear Mr. Utley:

The Commission has issued the enclosed Amendment No. 98 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your request dated August 28, 1985, as supplemented by letter dated November 11, 1985.

The amendment adds a minimum RCS flow to Section 2.1 Bases and Figure 2.1-1 of the Technical Specifications to assure that steady-state reactor coolant flow is maintained within the bounds of the cycle 10 safety analysis.

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

Sincerely,

/s/

Glude Requa, Project Manager
PWR Project Directorate #2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 98 to DPR-23
2. Safety Evaluation

cc w/enclosures:

See next page

LA:PAD#2
DM:Miller
4/21/86

PM:PAD#2
GRequa:MC
4/21/86

[Signature]
D:PAD#2
LRubenstein
7/5/86

OELD
[Signature]
M. Karman
4/28/86

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PDR ADDCK 05000261
P PDR

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

H. B. Robinson 2

cc:

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

CAROLINA POWER AND LIGHT COMPANY

DOCKET NO. 50-261

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

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 98
License No. DPR-23

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power and Light Company (the licensee) dated August 28, 1985, as supplemented November 11, 1985, 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. 98, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Acting
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Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing-A

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 6, 1986

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 98 FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
2.1-3	2.1-3
2.1-4	2.1-4

are set to preclude bulk boiling at the vessel exit. An arbitrary upper safety limit of 118% thermal power is shown. This limit is based on the high flux trip including all uncertainties.

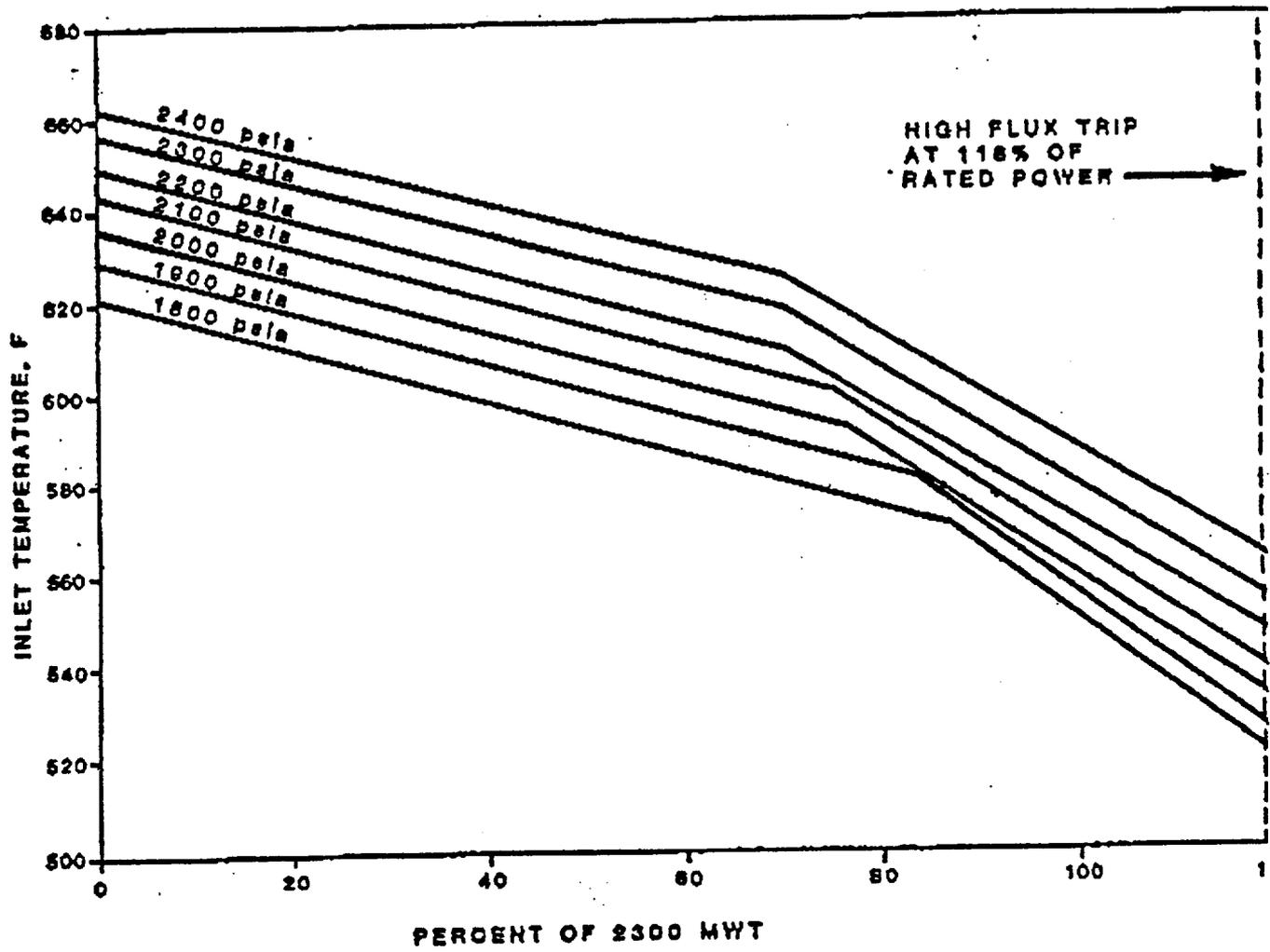
Radial power peaking factors consistent with the limit on $F_{\Delta H}$ given in Specification 3.10.2.1 have been employed in the generation of the curves in Figure 2.1-1. An additional heat flux factor of 1.03 has been included to account for fuel manufacturing tolerances and in-reactor densification of the fuel.

The safety limit curves given in Figure 2.1-1 are based on a minimum RCS flow of 97.3×10^6 lbm/hr. These curves would not be applicable in the case of a loss of flow transient. The evaluation of such an event would be based upon the analysis presented in Section 15.3 of the FSAR.

The Reactor Control and Protection System is designed to prevent any anticipated combination of transient conditions for Reactor Coolant System temperature, pressure, and thermal power level that would result in a DNB ratio of less than 1.17⁽²⁾ based on steady state nominal operating power levels less than or equal to 100%, steady state nominal operating Reactor Coolant System average temperatures less than or equal to 575.4°F, and a steady state nominal operating pressure of 2235 psig. Allowances are made in initial conditions assumed for transient analyses for steady state errors of +2% in power, +4°F in Reactor Coolant System average temperature, and ±30 psi in pressure. The combined steady state errors result in the DNB ratio at the start of a transient being 10 percent less than the value at nominal full power operating conditions.

References

- (1) XN-NF-711(P) Rev. 0, "XNB Addendum for 26 Inch Spacer."
- (2) FSAR Section 15.



CORE PROTECTION BOUNDARIES FOR 3-LOOP OPERATION
Figure 2.1-1

NOTE: BASED ON A MINIMUM RCS FLOW OF 97.3×10^6 lbm/hr



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 98 TO FACILITY OPERATING LICENSE NO. DPR-23

CAROLINA POWER AND LIGHT COMPANY

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

DOCKET NO. 50-261

Introduction

During the staff review of the H.B. Robinson-2 cycle-10 reload, the Carolina Power and Light Company (CP&L) committed to include in the Technical Specifications of the H. B. Robinson-2 plant a low reactor coolant loop flow trip setpoint which is not greater than 90 percent of the measured RCS flow less uncertainties (Ref. 1). The purpose of the commitment was to assure that the existing low flow trip setpoint bounded the design flow used in safety analyses, thus making it unnecessary to specify the design flow as a Technical Specification LCO. Shortly after the cycle-10 startup, a calorimetric flow determination was performed and the results were reported to the staff (Ref. 2). By letter dated August 28, 1985 (Ref. 3), CP&L requested a change in Technical Specification (TS) 2.1 to include specification of the minimum coolant flow assumed in the development of the core protection boundary operating limits in the basis of 2.1. By letter dated November 11, 1985, CP&L added the minimum flow to Figure 2.1-1 of the TS.

Evaluation

The H.B. Robinson-2 plant has an approved measured flow uncertainty of 1.8 percent (for the calorimetric method). Therefore, the minimum measured flow is 105.8×10^6 lbm/hr and the value which corresponds to 10 percent below that is 95.2×10^6 lbm/hr. The thermal design analysis flow is 97.30×10^6 lbm/hr and the minimum flow trip setpoint used in the analysis is 87.6×10^6 lbm/hr, i.e., 10 percent below the thermal design flow. The actual flow at trip is 95.2×10^6 lbm/hr.

The results of the flow measurements (Ref. 2) indicate that the low flow trip setpoint does not prevent operation with actual flow less than the design flow. The proposed Technical Specification change identifies the design flow assumed in the definition of Figure 2.1-1 operating boundaries and thus requires that the minimum flow of 97.3×10^6 lbm/hr be maintained by administrative controls.

We conclude that the proposed Technical Specification change provides appropriate assurance that steady-state reactor coolant flow is maintained within the bounds of the safety analyses and is, therefore, acceptable.

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Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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 this amendment.

Conclusion

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and 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 6, 1986

Principal Contributor:

L. Lois

REFERENCES

1. Letter from A. B. Cutter (CP&L) to S. A. Varga (NRC), dated October 12, 1984.
Serial: NLS-84-442.
2. Letter from S. R. Zimmerman (CP&L) to S. A. Varga (NRC), dated May 6, 1985.
Serial: NLS-85-155.
3. Letter from A. B. Cutter (CP&L) to S. A. Varga (NRC), dated August 28, 1985.
Serial: NLS-85-262, and November 11, 1985, Serial: NLS-85-398.