

December 1, 1986

Docket No. 50-261

DISTRIBUTION

Mr. E. E. Utley, Senior Executive Vice President
Power Supply and Engineering & Construction
Carolina Power and Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Docket File	B. Grimes
NRC PDR	J. Partlow
Local PDR	T. Barnhart (4)
PAD#2 Rdg	W. Jones
T. Novak	E. Butcher
D. Miller	N. Thompson
P. Tam	V. Benaroya
OGC-Bethesda	Tech Branch
L. Harmon	ACRS (10)
E. Jordan	C. Miles, OPA
Gray File	L. Tremper, LFMB

Dear Mr. Utley:

The Commission has issued the enclosed Amendment No. 109 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 July 14, 1986.

The amendment revises the graph "Normalized Axial Dependence Factor for F_Q verses Elevation," Figure 3.10-3 of the Technical Specifications, by increasing the 12-foot intercept from 0.431 to 0.647.

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/

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

Enclosures:

1. Amendment No. 109 to DPR-23
2. Safety Evaluation

cc: w/enclosures
See next page

LA: PAD#2
DM: Ter
11/17/86

PM: PAD#2
GRequa: ggr
11/17/86

OGC
Bachmann
11/24/86

JSR
PD: PAD#2
LRubenstein
11/17/86

8612070492 861201
PDR ADOCK 05000261
PDR

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

H. B. Robinson 2

cc:

Thomas A. Baxter, Esquire
Shaw, Pittman, Potts and Trowbridge
2300 N Street, N.W.
Washington, DC 20037

Mr. Dayne H. Brown, Chief
Radiation Protection Branch
Division of Facility Services
Department of Human Resources
701 Barbour Drive
Raleigh, North Carolina 27603-2008

Mr. McCuen Morrell, Chairman
Darlington County Board of Supervisors
County Courthouse
Darlington, South Carolina 29535

Mr. Robert P. Gruber
Executive Director
Public Staff - NCUC
P.O. Box 29520
Raleigh, North Carolina 27626-0520

Mr. H. A. Cole
Special Deputy Attorney General
State of North Carolina
P.O. Box 629
Raleigh, North Carolina 27602

Mr. D. E. Hollar
Associate General Counsel
Carolina Power and Light Company
P.O. Box 1551
Raleigh, North Carolina 27602

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
H. B. Robinson Steam Electric Plant
Route 5, Box 413
Hartsville, South Carolina 29550

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Suite 2900
101 Marietta Street
Atlanta, Georgia 30303

Mr. R. Morgan
General Manager
H. B. Robinson Steam Electric Plant
Post Office Box 790
Hartsville, South Carolina 29550



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.109.
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 July 14, 1986, 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:

8612070533 861201
PDR ADOCK 05000261
PDR

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 109, 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



Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 1, 1986

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 109 FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

Revise Appendix A as follows:

Remove Pages

3.10-22

Insert Pages

3.10-22

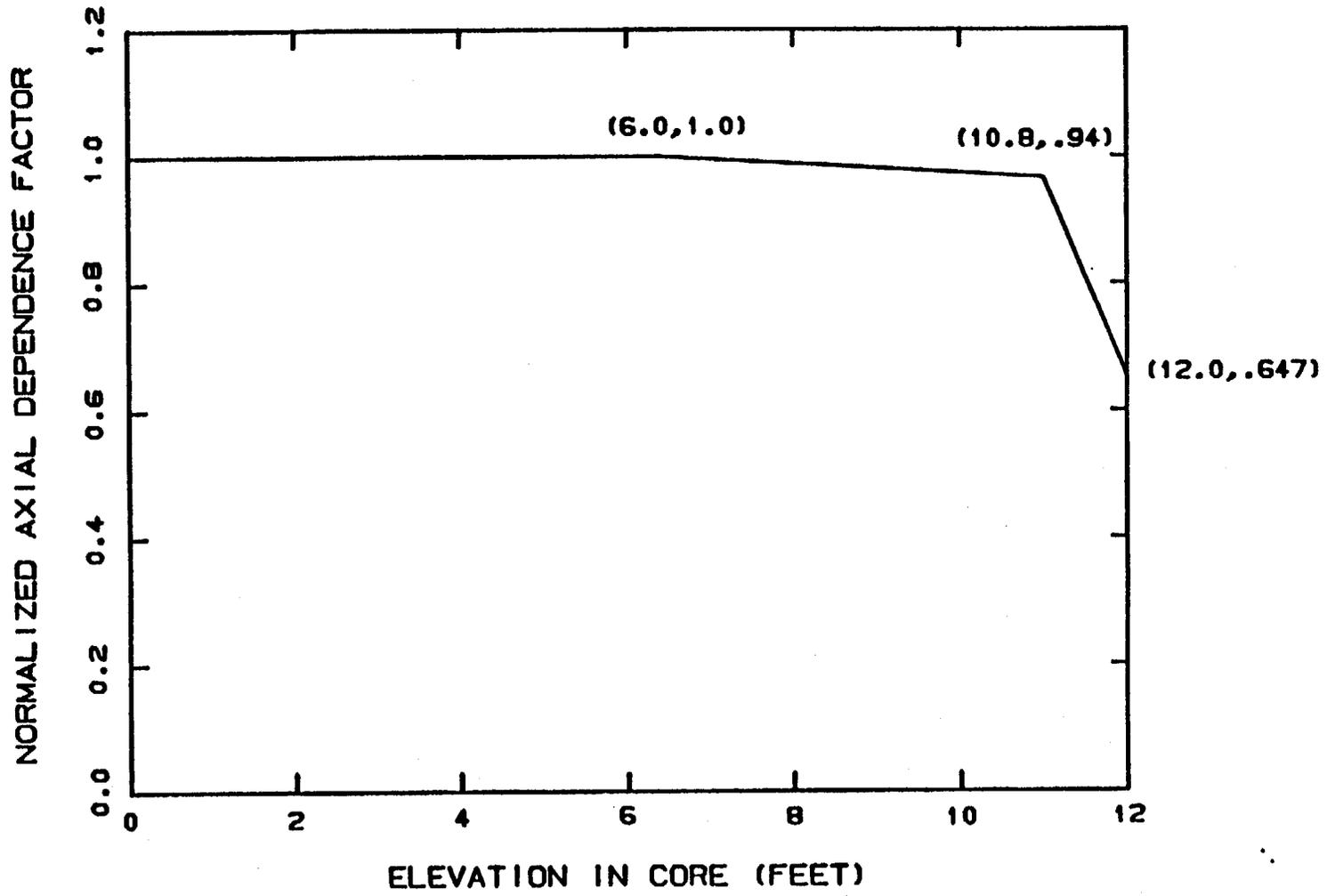


FIGURE 3.10-3 NORMALIZED AXIAL DEPENDENCE FACTOR FOR F_q VERSUS ELEVATION
(PEAK $F_q = 2.32$)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 109 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

1.0 INTRODUCTION

By letter to L. Rubenstein (NRC) from A. B. Cutter (CP&L) dated July 14, 1986, Carolina Power & Light (the licensee) requested a revision to the Technical Specifications for H.B. Robinson, Unit 2. The change specifically consists of a new curve of "Normalized Axial Dependence Factor for F_0 versus Elevation," $K(z)$. The revised $K(z)$ curve is a result of a reanalysis of the small break LOCA. The revised $K(z)$ curve provides substantial relief in F_0 limits toward the top of the core, since the old curve had a steeper slope from the intercept of the small break LOCA portion with the rest of the curve at the 10.8 foot axial elevation of the core. The 12 foot intercept of the new curve is 0.647, and the intercept for the old curve was 0.431.

2.0 EVALUATION

The reanalysis of the small break loss-of-coolant accident was performed by Westinghouse with the "Westinghouse Small Break and ECCS Evaluation Model using the NOTRUMP Code" (WCAP-10081-A), August 1985. This model and the NOTRUMP code have received NRC approval. The fuel in this particular analysis is Exxon fuel. The specific Exxon fuel design parameters were used in the calculations, but have little effect on the peak clad temperature in a small break LOCA. We therefore conclude the use of Westinghouse calculations for Exxon fuel is acceptable.

We reviewed the input parameters and initial conditions used in the analysis and find them acceptable. In particular, the $K(z)$ curve enters into the calculation as the input axial shape. This results first in a peak linear heat rate and ultimately in a decay heat rate as a function of axial height.

The model used for the analysis conservatively conforms with the requirements of Appendix K of 10 CFR 50. Calculations were performed for break sizes of 2, 3 and 4 inches. Results of the analysis of these breaks are presented in the licensee's submittal, including reactor coolant system pressure, core mixture height and hot spot clad temperature for the 3 and 4 inch break sizes. The two inch break results indicated no problems for these parameters. The three inch break resulted in the highest peak clad temperature of 1398°F. This provides a large margin to the 10 CFR 50.46 limit of 2200°F. In addition, the relatively mild results allow substantial margin to the other acceptance criteria of 10 CFR 50.46, and no case is limiting when compared to the results for large breaks.

3.0 SUMMARY

We find the Technical Specification changes to the K(z) curve proposed in the licensee's submittal dated July 14, 1986, acceptable because: the analysis of the small break LOCA used the proposed K(z) curve as an input parameter; the analysis was performed using NRC approved models and codes; the Exxon fuel in the reactor was included in the analysis; and the results show considerable margin to the acceptance criteria limits of 10 CFR 50.46.

4.0 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 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.

5.0 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: December 1, 1986

Principal Contributor:

M. S. Dunenfeld