

September 1, 1999

Mr. D. E. Young, Vice President
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant,
Unit No. 2
3581 West Entrance Road
Hartsville, South Carolina 29550

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 - ISSUANCE OF
AMENDMENT RE: REVISION TO TECHNICAL SPECIFICATIONS REFERENCES
FOR CORE OPERATING LIMITS REPORT (COLR) (TAC NO. MA4638)

Dear Mr. Young:

The Commission has issued the enclosed Amendment No. 185 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR). This amendment consists of changes to the Technical Specifications (TS) in response to your application dated January 28, 1999.

This amendment revises TS 5.6.5, "CORE OPERATING LIMITS REPORT (COLR)," to add two references to the list of approved topical reports. The staff finds the proposed TS changes acceptable.

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:

Ram Subbaratnam, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-261

Enclosures:

1. Amendment No. 185 to License No. DPR-23
2. Safety Evaluation

cc w/encls: See next page

** Staff Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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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,

A handwritten signature in black ink, appearing to read "Ram Subbaratnam".

Ram Subbaratnam, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-261

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cc w/encls: See next page



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. 185
License No. DPR-23

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated January 28, 1999, 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 2.C.(2) of Facility Operating License No. DPR-23 is hereby amended to read as follows:

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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 185, 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 its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Sheri R. Peterson, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 1, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 185

FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

5.0-31
5.0-32

Insert Pages

5.0-31
5.0-32

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

Analysis of Non-LOCA Chapter 15 Events," Advanced Nuclear Fuels Corporation, Richland WA 99352.

19. EMF-92-081(A), latest Revision and Supplements, "Statistical Setpoint/Transient Methodology for Westinghouse Type Reactors," Siemens Power Corporation - Nuclear Division, Richland, WA 99352.
 20. EMF-92-153(P)(A), Revision 0 and Supplement 1, "HTP: Departure from Nucleate Boiling Correlation for High Thermal Performance Fuel," Siemens Power Corporation, Richland WA 99352, March 7, 1994.
 21. XN-NF-85-92(P)(A), "Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results," Exxon Nuclear Company, November 1986.
 22. EMF-96-029(P)(A), Volume 1, Volume 2, and Attachment, "Reactor Analysis System for PWRs," Siemens Power Corporation, Richland WA, 99352, January 1997.
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or H of LCO 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

(continued)

5.6 Reporting Requirements (continued)

5.6.7 Tendon Surveillance Report

- a. Notification of a pending sample tendon test, along with detailed acceptance criteria, shall be submitted to the NRC at least two months prior to the actual test.
- b. A report containing the sample tendon test evaluation shall be submitted to the NRC within six months of conducting the test.

5.6.8 Steam Generator Tube Inspection Report

- a. A report of the number of tubes plugged in each steam generator shall be submitted to the NRC within 14 days after completion of the tube plugging.
- b. A report of the results of the steam generator tube inspection shall be included in the Monthly Operating Report for the period beginning after the final inspection is completed.

Reports shall include:

- 1. Number and extent of tubes inspected
 - 2. Location and percent of wall thickness penetration for each eddy current indication and any leaks.
 - 3. Identification of tubes plugged.
- c. A report of examination results falling in Category C-3 of Table 5.5-1 shall be submitted to the NRC within 30 days, and prior to resumption of plant operation.

A report of investigations conducted to determine cause(s) of the tube degradation and corrective measures taken to prevent recurrence shall be submitted within 90 days following completion of the startup test program.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TECHNICAL SPECIFICATION CHANGE

REGARDING ADDITION OF REFERENCES TO APPROVED TOPICAL REPORTS

FOR USE BY THE CORE OPERATING LIMITS REPORT

CAROLINA POWER & LIGHT COMPANY

H. B. ROBINSON UNIT NO. 2

DOCKET NO. 50-261

1.0 INTRODUCTION

By letter dated January 28, 1999 (Reference 1), Carolina Power & Light Company (CP&L) submitted a request for a technical specification (TS) change for a revision (addition) to the core operating limits report (COLR) references for the H. B. Robinson Steam Electric Plant, Unit 2 (HBR-2). The proposed change would revise TS 5.6.5, "CORE OPERATING LIMITS REPORT (COLR)," to add two new references to the list of approved topical reports which are used to support the safety analyses for HBR-2 reload cores.

The first approved vendor topical report (Reference 2) allows the use of up to 8 weight percent (wt%) of gadolinium oxide (Gd_2O_3) in HBR-2 fuel rods to limit power peaking. The second approved vendor topical report (Reference 3) allows the use of a new Siemens Power Corporation (SPC) pressurized water reactor (PWR) analysis method for reload core design and licensing calculations.

2.0 EVALUATION

The licensee requested a change to the HBR-2 TS 5.6.5, in accordance with 10 CFR 50.90, to add two approved vendor topical reports to the list of approved references for use in performing safety analyses and determining the core operating limits in the HBR-2 cycle-specific COLR.

The currently allowed methodology in the HBR-2 TS for calculating the material properties of gadolinia is described in SPC Topical Report XN-NF-79-56 (P)(A), "Gadolinia Fuel Properties for LWR Fuel Safety Evaluation," which was approved for concentrations no greater than 5 wt% Gd_2O_3 . SPC Topical Report XN-NF-85-92 (P)(A) (Reference 2) contains a newer Gd_2O_3 thermal conductivity model, as approved by Reference 4, which allows a Gd_2O_3 content in fuel rods of up to 8 wt%. Since XN-NF-85-92 was reviewed and approved for safety analysis modeling, it is acceptable for referencing in the HBR-2 TS.

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The currently allowed methodology in the HBR-2 TS for reactor analysis modeling is SPC Topical Report XN-75-27 (A), "Exxon Nuclear Neutronics Design Methods for Pressurized Water Reactors," Supplements 1 through 5. SPC Topical Report EMF-96-029 (P)(A), "Reactor Analysis System for PWRs," Volumes 1 and 2 (Reference 3) describes a new methodology, as reviewed and approved by Reference 5. Since EMF-96-029 has been reviewed and approved for PWR safety analysis modeling, it is acceptable for referencing in the HBR-2 TS.

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

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 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 (64 FR 9184). 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 this amendment.

5.0 CONCLUSION

Based on our review, the staff concludes that the proposed change to the HBR-2 TS 5.6.5 "CORE OPERATING LIMITS REPORT (COLR)" to add references to be used for calculating cycle-specific core operating limits is acceptable for incorporation because these references are approved vendor topical reports which are applicable to and have been validated for the analyses of HBR-2 reload cores.

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.

6.0 REFERENCES

1. Letter from R. L. Warden (CP&L), to USNRC, "Request for Technical Specification Change, Revision to Core Operating Limits Report (COLR) References," dated January 28, 1999.

2. Topical Report XN-NF-85-92 (P)(A), "Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results," Exxon Nuclear Company, November 1986.
3. Topical Report EMF-96-029 (P)(A), "Reactor Analysis System for PWRs," Volume 1, "Methodology Description," Volume 2, "Benchmarking Results," and Attachment, Siemens Power Corporation, Richmond WA 99352, January 1997.
4. Letter from C. E. Rossi (NRC) to G. N. Ward (ENC), "Acceptance for Referencing of Licensing Topical Reports XN-NF-85-92 (P), Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results, and XN NF-75-27 (P), Exxon Nuclear Neutronics Design Methods for Pressurized Water Reactors," dated September 26, 1986.
5. Letter from T. E. Collins (NRC) to H. D. Curet (SPC), "Acceptance for Referencing of Topical Report EMF-96-029 (P), Volumes 1 and 2, Reactor Analysis System for PWRs," dated October 29, 1996.

Principal Contributor: Ed Kendricks, SRXB/DSSA

Date: September 1, 1999

Mr. D. E. Young
Carolina Power & Light Company

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

cc:

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AMENDMENT NO. 185 TO FACILITY OPERATING LICENSE NO. DPR-23 - H. B. Robinson,
UNIT 2

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