



Serial: RNP-RA/01-0175

DEC 20 2001

United States Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23

APPLICATION FOR TECHNICAL SPECIFICATION CHANGE REGARDING  
REVISION TO CORE OPERATING LIMITS REPORT (COLR) REFERENCES

Ladies and Gentlemen:

In accordance with the provisions of the Code of Federal Regulations, Title 10, Part 50.90, Carolina Power & Light Company (CP&L) is submitting a request for an amendment to the Technical Specifications (TS) for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The proposed amendment would modify the requirements of TS 5.6.5, "Core Operating Limits Report (COLR)."

Specifically, the proposed change would add topical report EMF-2103(P), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," to the list of documents specified in TS 5.6.5 describing the approved methodologies used to determine the core operating limits. Framatome ANP submitted EMF-2103(P) for NRC review and approval by letter dated August 20, 2001. In their submittal letter, Framatome ANP requested that the NRC approve the report by September 1, 2002.

Attachment I provides an affidavit as required by 10 CFR 50.30(b).

Attachment II provides a description of the current condition, a description of the proposed change, a safety assessment of the proposed change, a No Significant Hazards Determination, and an Environmental Impact Consideration.

Attachment III provides a markup of the current TS pages.

Attachment IV provides retyped pages for the proposed TS.

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United States Nuclear Regulatory Commission

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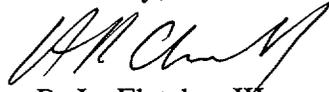
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In accordance with 10 CFR 50.91(b), CP&L is providing the State of South Carolina with a copy of the proposed license amendment.

CP&L requests approval of the proposed License Amendment following NRC approval of EMF-2103(P). CP&L also requests a 30 day implementation period following issuance of the amendment, to allow sufficient time to process the amendment package.

If you have any questions concerning this matter, please contact Mr. H. K. Chernoff.

Sincerely,

  
for B. L. Fletcher III  
Manager - Regulatory Affairs

CWS/cws

Attachments

- I. Affidavit
  - II. Application For Technical Specification Change Regarding Revision to Core Operating Limits Report (COLR) References
  - III. Markup of Current Technical Specification Pages
  - IV. Retyped Current Technical Specification Pages
- c: Mr. T. P. O'Kelley, Director, Bureau of Radiological Health (SC)  
Mr. B. S. Mallett, NRC, Region II  
Mr. A. G. Hansen, NRC, NRR  
NRC Resident Inspector, HBRSEP  
Attorney General (SC)

Affidavit

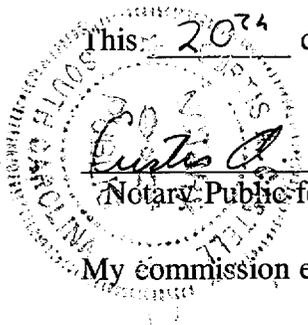
**State of South Carolina**  
**County of Darlington**

T. D. Walt, having been first duly sworn, did depose and say that the information contained in letter RNP-RA/01-0175 is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

T. D. Walt

Sworn to and subscribed before me

This: 20<sup>th</sup> day of December 2001



Curtis A. Costello  
Notary Public for South Carolina

My commission expires: Oct. 10, 2010

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**Description of Current Condition**

H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, Technical Specification (TS) 5.6.5 contains a list of documents that describe the analytical methods used to determine the core operating limits. TS 5.6.5 also states that these methods shall be those previously reviewed and approved by the NRC and that the approved version shall be identified in the COLR.

**Description of the Proposed Change**

The proposed change would add topical report EMF-2103(P), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," to the list of documents describing the approved methodologies used to determine the core operating limits.

**Safety Assessment**

TS 5.6.5 currently lists EMF-2087 (P)(A), "SEM/PWR-98: ECCS Evaluation Model for PWR LBLOCA Applications," and WCAP-8301 (Proprietary) and WCAP-8305 (Nonproprietary), "LOCTA-IV Program: Loss of Coolant Transient Analysis," as the approved methodologies for performing LBLOCA Analyses. The LBLOCA results reported in the UFSAR are based on the EMF-2087 methodology. Framatome ANP has developed a new realistic LBLOCA methodology that was submitted to the NRC for review and approval by letter dated August 20, 2001. In the August 20, 2001, letter, Framatome ANP requested that the NRC approve EMF-2103(P) by September 1, 2002. CP&L has reviewed the new methodology and found the methodology acceptable for use on HBRSEP, Unit No. 2. Use of this new methodology should result in a substantial reduction in the reported peak clad temperature for LBLOCA, with an accompanying margin increase that may prove advantageous in future cycle core designs.

EMF-2103(P), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," is not currently approved by the NRC. This proposed TS change is not expected to be approved prior to the NRC approval of EMF-2103(P). In addition, TS 5.6.5 requires that the approved version of the documents be identified in the COLR. This provides assurance that the methodology will not be used at HBRSEP, Unit No. 2, until it has been approved by the NRC.

### **No Significant Hazards Consideration Determination**

Carolina Power & Light Company (CP&L) is proposing a change to the Appendix A, Technical Specifications (TS), of Facility Operating License No. DPR-23, for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. This change will revise the requirements of TS 5.6.5, "CORE OPERATING LIMITS REPORT (COLR)," to provide an additional analytical methodology to be used to determine acceptable core designs and provide inputs to develop the core operating limits contained in the COLR.

An evaluation of the proposed change has been performed in accordance with 10 CFR 50.91(a)(1) regarding no significant hazards considerations using the standards in 10 CFR 50.92(c). A discussion of these standards as they relate to this amendment request follows:

1. The Proposed Change Does Not Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated

The proposed methodology will be generically reviewed and approved for use by the NRC for determining core operating limits prior to its use by CP&L. Analyzed events are assumed to be initiated by the failure of plant structures, systems, or components. The core operating limits developed in accordance with the new methodology will be bounded by any limitations in the NRC acceptance in its safety evaluations of the new methodologies. The topical report associated with the new methodology demonstrates that the integrity of the fuel will be maintained during normal operations and that design requirements will continue to be met. The proposed change does not involve physical changes to any plant structure, system, or component. Therefore, the probability of occurrence for a previously analyzed accident is not significantly increased.

The consequences of a previously analyzed accident are dependent on the initial conditions assumed for the analysis, the behavior of the fuel during the analyzed accident, the availability and successful functioning of the equipment assumed to operate in response to the analyzed event, and the setpoints at which these actions are initiated. The proposed methodology continues to meet applicable design and safety analyses acceptance criteria. The proposed change does not affect the performance of any equipment used to mitigate the consequences of an analyzed accident. As a result, no analysis assumptions are violated and there are no adverse effects on the factors that contribute to offsite or onsite dose as the result of an accident. The proposed change does not affect setpoints that initiate protective or mitigative actions. The proposed change ensures that plant structures, systems, or components are maintained consistent with the safety analysis and licensing bases. Based on this evaluation, there is no significant increase in the consequences of a previously analyzed event.

Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The Proposed Change Does Not Create the Possibility of a New or Different Kind of Accident From Any Previously Evaluated

The proposed change does not involve any physical alteration of plant systems, structures, or components, other than allowing for fuel design in accordance with NRC approved methodologies. The proposed methodology continues to meet applicable criteria for LBLOCA analysis. No new or different equipment is being installed. No installed equipment is being operated in a different manner. There is no alteration to the parameters within which the plant is normally operated or in the setpoints that initiate protective or mitigative actions. As a result no new failure modes are being introduced. There are no changes in the methods governing normal plant operation, nor are the methods utilized to respond to plant transients altered. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The Proposed Change Does Not Involve a Significant Reduction in the Margin of Safety

The margin of safety is established through the design of the plant structures, systems, and components, through the parameters within which the plant is operated, through the establishment of the setpoints for the actuation of equipment relied upon to respond to an event, and through margins contained within the safety analyses. The proposed change in the methodology used for LBLOCA analyses does not impact the condition or performance of structures, systems, setpoints, and components relied upon for accident mitigation. The proposed change does not significantly impact any safety analysis assumptions or results. Therefore, the proposed change does not result in a significant reduction in the margin of safety.

Based on the above discussion CP&L has determined that the requested change does not involve a significant hazards consideration.

### **Environmental Impact Consideration**

10 CFR 51.22(c)(9) provides criteria for identification of licensing and regulatory actions for categorical exclusion for performing an environmental assessment. A proposed change for an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed change would not (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increases in the amounts of any effluents that may be released offsite; (3) result in an increase in individual or cumulative occupational radiation exposure. Carolina Power & Light (CP&L) has reviewed

this request and determined that the proposed change 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 needs to be prepared in connection with the issuance with the amendment. The basis for this determination follows.

#### Proposed Change

The H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, Technical Specifications are revised to add a new analytical methodology used to determine acceptable core designs and provide inputs to methodologies that develop the core operating limits in the Core Operating Limits Report (COLR).

#### Basis

The proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons.

1. As demonstrated in the No Significant Hazards Consideration Determination, the proposed change does not involve a significant hazards consideration.
2. As demonstrated in the No Significant Hazards Consideration Determination, the proposed change does not result in a significant increase in the consequences of an accident previously evaluated and does not result in the possibility of a new or different kind of accident. Therefore, the proposed change does not result in a significant change in the types or significant increases in the amounts of any effluents that may be released offsite.
3. The proposed change does not modify the method of operation of systems and components necessary to prevent a radioactive release. Therefore the proposed change does not result in an increase in individual or cumulative occupational radiation exposures.

United States Nuclear Regulatory Commission  
Attachment III to Serial: RNP-RA/01-0175  
2 Pages

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APPLICATION FOR TECHNICAL SPECIFICATION CHANGE REGARDING  
REVISION TO CORE OPERATING LIMITS REPORT (COLR) REFERENCES

MARKUP OF TECHNICAL SPECIFICATION PAGES

5.6 Reporting Requirements

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5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

15. "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 87 to Facility Operating License No. DPR-23, Carolina Power & Light Co., H. B. Robinson Steam Electric Plant, Unit No. 2, Docket No. 50-261," USNRC, Washington, DC 20555, 7 Nov. 84.
16. ANF-88-054(P), "PDC-3: Advanced Nuclear Fuels Corporation Power Distribution Control for Pressurized Water Reactors and Application of PDC-3 to H. B. Robinson Unit 2," approved version as specified in the COLR.
17. ANF-88-133 (P)(A), "Qualification of Advanced Nuclear Fuels' PWR Design Methodology for Rod Burnups of 62 Gwd/MTU," approved version as specified in the COLR.
18. ANF-89-151(A), "ANF-RELAP Methodology for Pressurized Water Reactors: Analysis of Non-LOCA Chapter 15 Events," approved version as specified in the COLR.
19. EMF-92-081(A), "Statistical Setpoint/Transient Methodology for Westinghouse Type Reactors," approved version as specified in the COLR.
20. EMF-92-153(P)(A), "HTP: Departure from Nucleate Boiling Correlation for High Thermal Performance Fuel," approved version as specified in the COLR.
21. XN-NF-85-92(P)(A), "Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results," approved version as specified in the COLR.
22. EMF-96-029(P)(A), "Reactor Analysis System for PWRs," approved version as specified in the COLR.
23. EMF-92-116, "Generic Mechanical Design Criteria for PWR Fuel Designs," approved version as specified in the COLR.
24. EMF-2103(P), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," approved version as specified in the COLR.

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Attachment IV to Serial: RNP-RA/01-0175  
2 Pages

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RETYPE TECHNICAL SPECIFICATION PAGES

5.6 Reporting Requirements

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5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

15. "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 87 to Facility Operating License No. DPR-23, Carolina Power & Light Co., H. B. Robinson Steam Electric Plant, Unit No. 2, Docket No. 50-261," USNRC, Washington, DC 20555, 7 Nov. 84.
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