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SUBJECT: Application for amend to License DPR-23, revising Tech Specs  
 to implement guidance in Generic Ltr 88-16 to allow use of  
 core operating limits rept.

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**Carolina Power & Light Company**

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Vice President  
Nuclear Services Department

SERIAL: NLS-90-248

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
REQUEST FOR LICENSE AMENDMENT CORE OPERATING LIMITS REPORT

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company (CP&L) hereby request a revision to the Technical Specifications (TS) for the H. B. Robinson Steam Electric Plant, Unit No.2.

The proposed amendment implements the guidance of Generic Letter 88-16 by proposing changes to allow the use of a Core Operating Limits Report (COLR). The proposed amendment is consistent with published guidance and precedent established by previous similar amendments. A draft of the proposed change was discussed with NRC in early 1990 and NRC comments were considered in developing the final package.

Enclosure 1 provides a supporting Analysis/Safety Analysis.

Enclosure 2 details the basis for the Company's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 3 is an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment.

Enclosure 4 provides the proposed marked up Technical Specification pages.

Enclosure 5 contains a sample version of the revised Core Operating Limits Report using Cycle 14 information.

CP&L has reviewed NRC suggestions that it may be appropriate to include reports ANF-89-165(P), "Thermal Hydraulic Compatibility Analysis of ANF High Thermal Performance Fuel for H. B. Robinson Unit 2," and ANF-89-164(P), "Mechanical Licensing Report for H. B. Robinson High Thermal Performance Fuel Assemblies," in the generic methodologies reference list of Section 6.9 of the proposed COLR amendment. It is our conclusion that these reports should not

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be included because they document application of generic methods rather than the methods themselves. Instead, the reports XN-NF-82-21(A), "Application of Exxon Nuclear Company PQR Thermal Margin Methodology to Mixed Core Configurations," latest revision (covering ANF-89-165(P)) and XN-NF-82-06(A), "Qualification of Exxon Nuclear Fuel for Extended Burnup," latest revisions and supplements (covering ANF-89-164(P)) are listed as the applicable generic references. Note that ANF-89-164(P) is supported by another report ANF-88-133(P), "Qualification of Advanced Nuclear Fuels' PWR Design Methodology for Rod Burnups of 62 GWd/MTU," for batch burnups greater than 45 GWd/MTU. CP&L's intention is to add ANF-88-133(P) to the generic references list as an administrative change to the Technical Specifications after NRC approval of the methodology and before increasing our allowable peak fuel assembly discharge exposure beyond 44 GWd/MTU.

In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendment, once approved by the NRC, be issued such that implementation will occur within 60 days from the issuance of the amendment.

If you have any questions concerning this request, please contact Mr. S. D. Floyd at (919)546-6901.

Yours very truly,



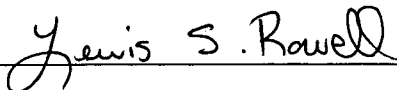
G. E. Vaughn

Enclosures

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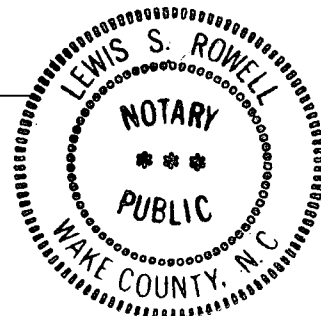
cc: Mr. S. D. Ebnetter  
Mr. L. Garner (NRC-HBR)  
Mr. R. Lo  
Mr. Heyward G. Shealy (SC)  
Attorney General (SC)

G. E. Vaughn, having been first duly sworn, did depose and say that the information contained herein 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.



Notary (Seal)

My commission expires: 7/12/94



## ENCLOSURE 1

### SUPPORTING ANALYSES/SAFETY ANALYSES

#### Background

H. B. Robinson Unit 2, as well as all other commercial nuclear power plants, is required to operate within specific core operating limits and restrictions as specified in the Technical Specifications. Examples of these limits/restrictions include power dependent rod insertion limits and limits on  $F_Q(Z)$  and  $F\Delta_H$ , among others. At present, as specific numerical values for these limits/restrictions are revised, Technical Specification changes and NRC approval are required. If these changes are frequent, e.g. on a cycle-specific basis, or if they are needed on accelerated schedules, considerable administrative burdens are placed on both the NRC and on CP&L personnel.

To reduce this burden, the CORE OPERATING LIMITS REPORT (COLR) concept was developed in which specific numerical values for certain core operating limits and restrictions would be removed from the Technical Specifications and relocated to a COLR document. Using NRC approved methodologies, numerical values for these operating limits and restrictions can be updated on an as-needed basis (e.g. each cycle) by simply revising the COLR with appropriate review and notification to the NRC, hence, revisions to the Technical Specifications are not required.

In Generic Letter 88-16, dated October 4, 1988, the NRC endorsed the COLR concept by encouraging licensees to develop such a document. The letter provided guidance for relocation of specific numerical values for various core operating limits and restrictions to a COLR and indicated that these values could be changed without prior NRC approval so long as an NRC-approved methodology is followed. Future changes and updates would be allowable provided a safety review is performed in accordance with the provisions of 10 CFR 50.59, the COLR is suitably revised, and the NRC is promptly informed of the revision.

The discussion provided below will cover the general scope of the proposed Technical Specification amendments and will also include a safety evaluation. The actual Technical Specification markups along with a H. B. Robinson Unit 2 sample COLR follow the safety evaluation.

#### Proposed Changes

The license amendments proposed in this submittal concern the relocation of numerical values for several cycle-specific core operating limits and restrictions from the H. B. Robinson Unit 2 Technical Specifications to a COLR. To accommodate a COLR, the Technical Specifications will be amended to include a definition of the COLR, affected individual specifications will

be amended to reflect the fact that numerical values for the cycle-specific limits/restrictions have been relocated to the COLR, and reference to the COLR will be added to the Administrative Control Section to specify COLR contents, approved methodologies to be used for updating the COLR, and NRC reporting requirements for revision of the COLR.

Changes to individual specifications to remove specific numerical values for limits/restrictions will reference the COLR as the source of the values and specify that operation of the plant is subject to and must be maintained within the criteria established therein.

Relocation of numerical values for the following cycle-specific core operating limits/restrictions is proposed:

<u>Affected Specifications</u>	<u>Affected Limit/Restriction</u>
3.1.3.1 3.1.3.3 basis	Moderator Temperature Coefficient
3.10.1.2 3.10.1.4 basis	Shutdown Bank Insertion Limits
3.10.1.3 3.10.1.4 basis	Control Bank Insertion Limits
3.10.2.1 3.10.2.2 3.10.2.2.1 3.10.2.2.2	Heat Flux Hot Channel Factor
3.10.2.1	Enthalpy Rise Hot Channel Factor
3.10.2.1 3.10.2.2 3.10.2.2.1 3.10.2.2.2 3.10.2.7 3.10.2.9 3.10.2.11 basis	Axial Flux Difference Control Limitations/Penalties
3.10.2.1 3.10.2.2 3.10.2.2.1 3.10.2.2.2	K(Z) LOCA Axial Penalty Function

These changes are consistent with the requirements of 10 CFR 50.36 and with the NRC staff's proposed policy for improving Technical Specifications delineated in SECY-86-10 and entitled "Recommendations for Improving TS." These changes are also considered improvements per NRC stated policy for improving Technical Specifications (52 FR 3788, February 6, 1987).

### Safety Evaluation

The current method of insuring compliance with UFSAR Chapter 15 acceptance criteria is to use NRC approved methodologies to analyze Chapter 15 events and from the results establish appropriate core operating limits/restrictions which insure safe plant operation. As new numerical values for core operating limits/restrictions are established, Technical Specification amendments (hence, NRC approval) are necessary to incorporate the changes and make use of the values in actual plant operation.

The proposed method of insuring compliance with UFSAR Chapter 15 acceptance criteria is to continue to use NRC approved methodologies to establish appropriate core operating limits/restrictions, but relocate specific numerical values for these limits/restrictions to a COLR. The Technical Specifications will continue to require compliance with these limits/restrictions, to define how compliance will be demonstrated, and will provide actions to be taken in the event non-compliance is discovered. In addition, the Technical Specifications will specifically reference the COLR as the source of the relocated numerical values.

Changes to the COLR contents will be made in accordance with the provisions of 10 CFR 50.59. From cycle to cycle, or as necessary, the COLR will be revised to comply with core operating limits/restrictions established for the specific cycle as new Chapter 15 analyses are performed using NRC approved methods. As such, Technical Specification amendments will not be necessary.

### Conclusion

The removal of numerical values for the noted core operating limits/restrictions from the H. B. Robinson Unit 2 Technical Specification has no impact upon plant operation or safety. No safety related equipment, safety functions, or plant operations will be altered as a result of this proposed change, hence, no changes to the design bases will be made. In addition, compliance with all applicable UFSAR Chapter 15 acceptance criteria will continue as NRC approved methods are used to establish numerical values for the core operating limits/restrictions. Technical Specifications will continue to require operation within the bounds established by these core operating limits/ restrictions.

## ENCLOSURE 2

### DETERMINATION OF SIGNIFICANT HAZARDS ANALYSIS

Pursuant to 10 CFR 50.91 license amendments submittals must include a determination of significant hazards analysis in accordance with the standards established in 10 CFR 50.92. Carolina Power and Light Co. has determined per the requirements of 10 CFR 50.92 that the proposed license amendment, which will relocate specific numerical values for certain core operating limits/restrictions from the H. B. Robinson Unit 2 Technical Specifications to a CORE OPERATING LIMITS REPORT (COLR), does not involve any significant hazards considerations. The following discussion describes how this determination was made.

The basis for determining if the proposed license amendment involves any significant hazards considerations is as follows.

- 1) Operation of the facility, in accordance with the proposed amendment, would not involve a significant increase in the probability or consequences of an accident previously evaluated because:
  - a. The removal of specific numerical values for the noted core operating limits/restrictions from the H. B. Robinson Unit 2 Technical Specifications will have no influence on the probability of an accident previously evaluated. No changes will be made to any safety related equipment or its functions, neither will any changes be made to any equipment, systems, or setpoints used in determining the probability of an evaluated accident. The plant design bases will therefore remain the same.
  - b. The removal of specific numerical values from the H. B. Robinson Unit 2 Technical Specifications will have no influence on the consequences of an accident previously evaluated. Although these numerical values will no longer reside in the Technical Specifications, compliance will still be required during plant operations. The Technical Specification amendments will reference the COLR as the source of these values. Actions to be taken in the event of non-compliance with the COLR specified values will remain the same as those currently specified in the Technical Specifications. Additionally, specific numerical values for these limits/restrictions are appropriately set such that in the event of an evaluated accident, the consequences will remain within the acceptance criteria assumed in Chapter 15 analyses. Accordingly, the Chapter 15 analyses will be evaluated for each reload using the NRC-approved methodologies delineated in Section 6.9 of the Technical

Specifications (per this license amendment) to confirm applicable acceptance criteria are met.

Therefore, based on the above arguments, no significant increase in the probability or consequences of an accident previously evaluated will result from this license amendment.

- 2) Operation of the facility, in accordance with the proposed amendment, would not create the possibility of a new or different kind of accident from any accident previously evaluated because the removal of specific numerical values for the noted core operating limits/restrictions from the Technical Specifications will not result in any changes to any safety related equipment or its functions, nor will any changes be made to equipment, systems, or setpoints designed to prevent or mitigate accidents. No changes in the design bases will be made. Therefore, the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.
- 3) Operation of the facility, in accordance with the proposed amendment, would not involve a significant reduction in the margin of safety because adequate margin to safety is insured by performing analyses using NRC-approved methodologies specified in Section 6.9 of the Technical Specifications (per this license amendment) to verify compliance with the conditions and acceptance criteria assumed in Chapter 15 of the UFSAR. As these analyses are performed, specific numerical values for core operating limits/restrictions are appropriately set to insure that adequate margin to safety is maintained should a Chapter 15 event occur. The Technical Specifications will continue to require compliance with and operation within the bounds of these limits/restrictions and no changes will be made to actions required by the Technical Specifications in the event of non-compliance. Development of limits/restrictions for future cycles will conform to the NRC-approved methods specified in Section 6.9 of the Technical Specifications, and in addition, a safety review in accordance with 10 CFR 50.59 will be performed for each reload to insure no unreviewed safety questions exist.

Therefore, no significant reduction in the margin of safety will result from the proposed amendment.



Conclusion

The NRC has provided guidance (51 FR 7750) in the application of standards for determining whether a significant hazards consideration exist as the result of a license amendment. This guidance includes examples of amendments not likely to involve significant hazards considerations. The changes to the H. B. Robinson Unit 2 Technical Specifications proposed by this amendment are similar to those of administrative changes identified in the guidance.

In light of these arguments and per the significant hazards determination provided above, Carolina Power and Light Co. has determined that the proposed license amendment does not involve any significant hazard considerations.

## ENCLOSURE 3

### ENVIRONMENTAL DETERMINATION

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; and (3) result in an increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed 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 needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

1. As demonstrated in Enclosure 2, the proposed amendment does not involve a significant hazards consideration.
2. The proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. The proposed change relocates numerical values for several cycle-specific core operating limits and restrictions from the Technical Specifications into the Core Operating Limits Report (COLR). The proposed amendment does not introduce any new equipment nor does it require any existing equipment or systems to perform a different type of function than they are currently designed to perform. As such, the change can not affect the types or amounts of any effluents that may be released offsite.
3. The proposed amendment does not result in an increase in individual or cumulative occupational radiation exposure. The proposed change relocates numerical values for several cycle-specific core operating limits and restrictions from the Technical Specifications into the COLR. No additional surveillances or testing results from the amendment. Therefore, the amendment has no affect on either individual or cumulative occupational radiation exposure.