



Carolina Power & Light Company

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FEB 28 1990

A. B. CUTTER  
Vice President  
Nuclear Services Department

SERIAL: NLS-90-009  
10CFR50.90  
90TSB01

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1  
DOCKET NO. 50-325/LICENSE NO. DPR-71  
REQUEST FOR LICENSE AMENDMENT  
FUEL CYCLE 8 - RELOAD LICENSING

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company (CP&L) hereby requests a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Unit 1.

The proposed amendment revises the Minimum Critical Power Ratio (MCPR) safety limit specified in Technical Specification 2.1.2 from 1.04 to 1.07 for Cycle 8 operation. In addition, Technical Specification 5.3.1 has been revised to (1) reflect the new fuel type (GE8X8NB-3) which will be inserted in the upcoming refueling outage, (2) more clearly identify existing fuel types, and (3) delete fuel types that will not be in the core during Cycle 8.

Enclosure 1 provides a detailed description of the proposed changes and the basis for the changes.

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

Enclosure 3 provides the proposed Technical Specification pages for Unit 1.

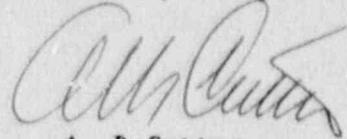
In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendment, once approved by the NRC, be issued with an effective date to be no later than 60 days from the issuance of the amendment.

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*Add: NRC*  
*Chatterton*  
*H. Seal*

Please refer any questions regarding this submittal to Mr. M. R. Gates at  
(919) 546-6063.

Yours very truly,



A. B. Cutter

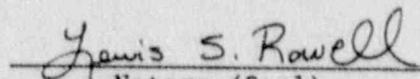
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Enclosures:

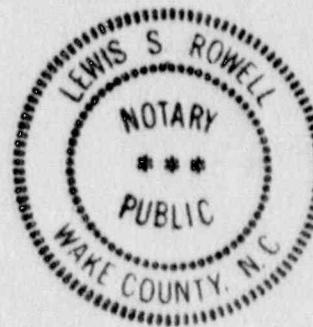
1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Technical Specification Pages - Unit 1

cc: Mr. Dayne H. Brown  
Mr. S. D. Ebnetter  
Mr. W. H. Ruland  
Mr. E. G. Tourigny

A. B. Cutter, 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

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BASIS FOR CHANGE REQUEST

Proposed Change

The proposed amendment revises the Minimum Critical Power Ratio (MCPR) safety limit specified in Technical Specification 2.1.2 from 1.04 to 1.07 for Cycle 8 operation. In addition, Technical Specification 5.3.1 has been revised to (1) reflect the new fuel type (GE8X8NB-3) which will be inserted in the upcoming refueling outage, (2) more clearly identify existing fuel types, and (3) delete fuel types that will not be in the core during Cycle 8.

Basis

Currently, the Brunswick-1 Technical Specifications reference the use of a safety limit Minimum Critical Power Ratio (MCPR) value of 1.04. The proposed amendment changes the MCPR safety limit in Technical Specification 2.1.2 from 1.04 to 1.07.

The MCPR safety limit is established to protect the integrity of the fuel cladding during normal plant operations and anticipated transients, as required by Criterion 10 of 10 CFR 50, Appendix A. As such, the MCPR safety limit bounds the acceptable consequences of anticipated operational occurrences. The current MCPR safety limit of 1.04 provides adequate margin to assure that more than 99.9% of the fuel rods in the Cycle 7 core avoid transition boiling. The revised MCPR safety limit of 1.07 maintains this margin, taking into account the new GE8X8NB-3 fuel type to be loaded in Cycle 8.

The GE8X8NB-3 design consists of the GE8X8NB fuel design with an interactive channel and offset lower tie plate. The NRC has approved the use of the C-lattice GE8X8NB safety limit MCPR of 1.07 for evaluations of GE8X8NB-3 reloads in Amendment 21 to NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel" (GESTAR-II). The GE8X8NB-3 design has a geometry between C-lattice and D-lattice designs. The offset lower tie plate makes D-lattice bundles more compatible with C-lattice bundles for analyses purposes. Use of the GE8X8NB bounding C-lattice MCPR safety limit, which is greater than the D-lattice safety limit, constitutes a conservative approach and maintains the current margin of safety.

Technical Specification 5.3.1 currently refers to four fuel types: 8X8R, P8X8R, BP8X8R, and GE8. Two of these, 8X8R and P8X8R, will not be loaded in the Brunswick-1 core during the upcoming cycle. The proposed change deletes references to these fuel types from Technical Specification 5.3.1. The reference to GE8 is accurate but inconsistent with the nomenclature used in

GESTAR-II. Therefore, the reference to GE8 is being replaced with an equivalent reference to GE8X8EB. Reference to the GE8X8NB-3 fuel type is being added to reflect the use of this new fuel type in Cycle 8.

ENCLOSURE 2

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10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards consideration. The bases for this determination are as follows:

Proposed Change

The proposed amendment revises the Minimum Critical Power Ratio (MCPR) safety limit specified in Technical Specification 2.1.2 from 1.04 to 1.07 for Cycle 8 operation. In addition, Technical Specification 5.3.1 has been revised to (1) reflect the new fuel type (GE8X8NB-3) which will be inserted in the upcoming refueling outage, (2) more clearly identify existing fuel types, and (3) delete fuel types that will not be in the core during Cycle 8.

Basis

The change does not involve a significant hazards consideration for the following reasons:

1. The NRC accepted methodology used to derive the updated safety limit MCPR of 1.07 applies the same criteria as that used to derive the current safety limit MCPR value of 1.04. The updated safety limit MCPR value of 1.07 assures that fuel cladding protection equivalent to that provided with the safety limit MCPR value of 1.04 is maintained. Thus, the consequences of accidents previously evaluated are not significantly increased. The safety limit MCPR does not affect any physical system or equipment which could change the probability of an accident. Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.
2. Adoption of the proposed MCPR safety limit value does not affect the function of any component or system. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The safety limit MCPR value is determined for cycle specific application of fuel types as described in NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," to meet Criterion 10 of 10 CFR 50, Appendix A. Analyses of the limiting anticipated operational occurrences for each cycle are used in conjunction with the applicable safety limit MCPR value to determine cycle specific operating limit MCPR values. Use of the 1.07 safety limit MCPR for Cycle 8 will result in equivalent fuel cladding protection as that provided by the current cycle limit of 1.04. Therefore, the proposed amendment does not involve a significant reduction in the margin of safety.

The Commission has also provided examples of amendments that are considered not likely to involve significant hazards considerations (51 FR 7744). One such example, (i) is a purely administrative change to technical specifications, for example, a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature. The changes to Technical Specification 5.3.1 are purely administrative in nature and, as such, do not involve a significant hazards consideration.

ENCLOSURE 3

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TECHNICAL SPECIFICATION PAGES - UNIT 1