



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-62  
CAROLINA POWER & LIGHT COMPANY  
BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2  
DOCKET NO. 50-324

1.0 INTRODUCTION

By letter dated June 9, 1989 from A.B. Cutter (CP&L) to NRC, the licensee submitted a request for the Technical Specification changes for Brunswick Steam Electric Plant (Brunswick), Unit 2, for Cycle 9. The Cycle 9 reload core will consist of three types of GE fuel BP8x8R, GE8x8EB, and GE8x8NB, of which the type GE8x8NB is a new fuel type. The GE8x8NB fuel was approved for reload in Amendment 18 to GEGAR-II (NEDE-24011-P-A). Due to the use of new fuel GE8x8NB, the licensee recalculates the minimum critical power ratio (MCPR) safety limit and proposes a change in the Technical Specifications. We evaluate the changes in the following.

2.0 EVALUATION OF TECHNICAL SPECIFICATION CHANGES

(1) Section 2.1.2 THERMAL POWER

The MCPR safety limit for Cycle 9 with the new GE8x8NB fuel type is changed from 1.04 to 1.06. The new MCPR limit is based on an approved methodology described in the approved Amendment 18 to NEDE-24011-P-A. The degree of conservatism associated with the new MCPR limit is the same as that of the old MCPR limit, i.e., there is an adequate margin to assure that more than 99.9 percent of the fuel rods in the core will not experience boiling transition during normal operation and anticipated operational occurrences (A00s).

Based on the approved methodology and adequate conservatism, we conclude that the new MCPR limit of 1.06 is acceptable for use in Cycle 9.

(2) 5.3.1 FUEL ASSEMBLIES

The fuel types in the Cycle 9 reload core are BP8x8R, GE8x8EB, and GE8x8NB. The fuel types BP8x8R and GE8x8EB are currently in Cycle 8 core. The new fuel type GE8x8NB was approved in Amendment 18 to NEDE-24011-P-A. We thus conclude that the three fuel types BP8x8R, GE8x8EB, and GE8x8NB are acceptable for use in Cycle 9.

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### 3.0 ENVIRONMENTAL CONSIDERATIONS

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. 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 off site; and that there should be 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 the amendment.

### 4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration which was published in the FEDERAL REGISTER (54 FR 29401) on July 12, 1989, and consulted with the State of North Carolina. No public comments or requests for hearing were received, and the State of North Carolina did not have any comments.

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: S. Wu

Dated: November 8, 1989