



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 93 TO

FACILITY OPERATING LICENSE NO. NPF-38

ENTERGY OPERATIONS, INC.

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

1.0 INTRODUCTION

By application dated November 16, 1993, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Waterford Steam Electric Station, Unit 3, Technical Specification (TS) 3.2.4, "Power Distribution Limits, DNBR Margin." The proposed changes (NPF-38-144) would revise TS 3.2.4b (when the Core Operating Limit Supervisory System (COLSS) is in service and neither Control Element Assembly Calculator (CEAC) is operable) and TS 3.2.4c (when COLSS is out of service and either one or both CEACs are operable). By letter dated April 5, 1994, the licensee withdrew the proposed change related to TS 3.2.4b.

2.0 DISCUSSION

There are two systems that monitor core power distribution online: the COLSS and the Core Protection Calculators (CPCs). CEACs monitor CEA position and transmit an appropriate penalty factor to the CPCs if a CEA should deviate from its allowable subgroup position. The COLSS is normally used to monitor departure from nucleate boiling ratio (DNBR) margin. When COLSS is in service and at least one CEAC is operable, TS 3.2.4a provides enough margin to departure from nucleate boiling (DNB) to accommodate the limiting anticipated operational occurrence (AOO) without failing fuel. This has been reverified by the Cycle 7 safety analyses.

When the COLSS is out of service but at least one CEAC is operable, TS 3.2.4c requires that the DNBR operating margin shall be maintained by comparing the DNBR indicated on any operable CPC channel with the allowable value from TS Figure 3.2-2. Whenever the COLSS is out of service, the CPCs are used to perform the same monitoring function. However, the extra conservatisms built into the CPCs for transient protection are not all required when the CPCs are being used for monitoring. In order not to affect the transient protection, these conservatisms are not taken from the CPC but are credited in the COLSS out-of-service limits given in TS Figure 3.2-2.

3.0 EVALUATION

The licensee has reevaluated the limiting A00s based on the Cycle 7 core parameters as part of the Cycle 7 reload safety analyses. The results have indicated that the acceptable operating region shown in the proposed revised Figure 3.2-2 provides sufficient margin to ensure that fuel failure will not result during normal operation or A00s, thereby conforming to General Design Criterion (GCD) 10 of Appendix A to 10 CFR Part 50. The analyses were performed using staff approved methods and assumptions. The staff, therefore, finds that the proposed revision to this figure is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Louisiana State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The 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. 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 (59 FR 620). 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 the amendment.

6.0 CONCLUSION

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.

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Date: April 22, 1994