



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

ENCLOSURE 1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATING TO TECHNICAL SPECIFICATION CHANGE REQUEST NPF-38-144

POWER DISTRIBUTION LIMITS, DNBR MARGIN

ENTERGY OPERATIONS, INCORPORATED

WATERFORD STEAM ELECTRIC STATION, UNIT NO. 3

DOCKET NO. 50-382

1.0 INTRODUCTION

In a letter of November 16, 1993, Entergy Operations, Incorporated, the licensee, requested changes to the Technical Specifications (TS) for the Waterford Steam Electric Station, Unit 3. The proposed changes (NPF-38-144) would revise TS 3.2.4b (when the Core Operating Limits 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).

2.0 EVALUATION

COLSS is normally used to monitor DNBR margin. When 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 neither CEAC is operable, the Core Protection Calculators (CPCs) lack the Control Element Assembly (CEA) position information necessary to ensure a reactor trip when necessary. Therefore,

the COLSS calculated core power must be reduced to ensure that the limiting AOO will not result in fuel failure. Currently, TS 3.2.4b requires that the COLSS calculated core power be maintained at 13 percent below the COLSS calculated power operating limit to compensate for this potential error in the CPC DNBR calculation. This was based on the Cycle 2 safety analyses. As a result of the reevaluation of the limiting AOOs for Cycle 7, the proposed revision would increase this required adjustment to 16 percent. This new value ensures the limiting AOO will not result in any fuel rod achieving DNB. It was derived using approved methods and merely reflects the changes in core parameters in Cycle 7 compared to previous cycles. The change is, therefore, acceptable.

Whenever COLSS is out-of-service, the CPCs are used to perform the same monitoring function. However, the extra conservatism 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. A reevaluation of the limiting AOOs performed as part of the Cycle 7 safety analyses has verified that by maintaining the margin shown in the proposed revised Figure 3.2-2, sufficient margin exists to ensure that the limiting Cycle 7 AOO will not result in fuel failure. The proposed revision to this Figure is, therefore, acceptable.

### 3.0 CONCLUSION

The staff has reviewed the proposed changes to TS 3.2.4 and,

based on the above evaluation, finds them acceptable for Cycle 7 operation of Waterford 3.

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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

ENCLOSURE 2

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

FACILITY NAME                      Waterford Steam Electric Station, Unit 3

SUMMARY OF REVIEW

The SER involved a review of proposed changes that would revise Technical Specification 3.2.4. This review was conducted by the Reactor Systems Branch/DSSA/NRR. The review was performed during February and March 1994. Based on its review, the staff concludes that the proposed Technical Specification changes are acceptable.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCE - SAFETY ASSESSMENT/  
QUALITY VERIFICATION

The licensee addressed all aspects of the issues. This achievement indicated good interdepartmental communications, a technically qualified staff, and responsiveness to NRC issues.

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