



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 164 TO

FACILITY OPERATING LICENSE NO. NPF-6

ENERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By application dated March 17, 1995, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Arkansas Nuclear One, Unit 2, Technical Specification (TS) 3.2.4, "Power Distribution Limits, DNBR Margin." The proposed changes 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.) The value of 13.0% which is used to decrease the departure from nucleate boiling ratio (DNBR) would be placed in the Core Operating Limits Report (COLR).

2.0 EVALUATION

There are two systems that are capable of monitoring core power distribution; the COLSS and the Core Protection Calculators (CPCs). The 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. When neither CEAC is operable, the CPCs lack the Control Element Assembly (CEA) position information necessary to ensure a reactor trip when needed. 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% below the COLSS calculated power operating limit to compensate for this potential error in the CPC DNBR calculation. The value of this adjustment is based on the cycle-specific safety analyses performed for each reload evaluation using NRC-approved methodology. NRC Generic Letter 88-16 allowed licensees to remove cycle-specific parameters from TS and place them in a COLR, provided the limits are developed using an NRC-approved methodology. Therefore, the staff concludes that the adjustment value may be placed in the ANO-2 COLR, subject to specification in the TS that the value will be calculated in accordance with a specified NRC-approved methodology. In this regard, as part of this amendment, TS 6.9.5.1 is modified

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ENCLOSURE

to indicate that the Modified Statistical Combination of Uncertainties (MSCU) methodology described in CEN-356(V)-P-A, Revision 01-P-A, and approved by the NRC, will be used to obtain uncertainty factors for determining the limiting safety system setting (LSSS) and the limiting condition for operation (LCO) for the COLSS and CPC systems. The NRC staff has determined that the resultant penalties applied to the COLSS power operating limit and the CPC DNBR and local power density calculations using the MSCU methodology adequately incorporate all uncertainties at the 95/95 probability/confidence level, and is acceptable for use at ANO-2. Accordingly, the specific calculated value of 13%, used to decrease the DNBR, may be placed in the COLR. Any figure changes to this value will be controlled by use of an NRC-approved methodology, specified in the TS.

3.0 TECHNICAL CONCLUSION

The NRC has reviewed the proposed changes to the ANO-2 TS which would place the specific value listed in TS 3.2.4.b, as described above, in the plant COLR. The NRC-approved Modified Statistical Combination of Uncertainties methodology is also acceptable for use by ANO-2 as an approved reference.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas 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 and changes surveillance requirements. 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 (60 FR 37088). 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: September 19, 1995