



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 173 TO

FACILITY OPERATING LICENSE NO. NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By letter dated July 19, 1995, Entergy Operations, Inc., requested revisions to the Surveillance Requirement 4.1.3.1.2 of the Technical Specifications (TSs) for Arkansas Nuclear One-Unit 2 (ANO-2). This proposed change modifies the Control Element Assembly (CEA) exercise frequency from at least once per 31 days to at least once per 92 days in accordance with Generic Letter (GL) 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993.

The current ANO-2 TS Surveillance Requirement 4.1.3.1.2 requires each full length CEA not fully inserted and each part length CEA which is inserted in the core to be determined operable by movement of at least five inches in any one direction at least every 31 days. This test demonstrates the proper operation of the control element drive mechanism (CEDM), but more importantly verifies that the CEAs are not mechanically bound.

2.0 EVALUATION

Control rod motion testing was reviewed as part of the evaluation of power testing requirements. NUREG-1366 determined that electrical problems with the control rod drive system were the major contributor to rod motion failure. Mechanical problems were found to be less common than electrical problems. Most stuck rods were discovered during rod drop testing or during plant startup after refueling. Based on the generic evaluation it was concluded in GL 93-05 that the surveillance interval for control rod motion testing could be increased to once every 92 days without any decrease in plant safety.

The ANO-2 experience of CEA malfunctions has been similar to that of the industry. ANO-2 has not identified any stuck rods during routine surveillance testing. However, performance of the CEA exercise test has caused reactor trips and dropped and slipped CEAs. These problems are primarily due to electrical failures of the complex CEA control systems. These electrical problems would not prevent insertion of a CEA into the core when the reactor trip breakers were opened. Mechanical failures which would result in less than full insertion of a CEA upon reactor trip are very significant, but are much less common and have not been found during testing.

The maintenance practices at ANO-2 to detect and repair control element drive mechanism control system problems prior to the performance of any planned CEA movement have been successful in reducing the CEDM initiated transients during CEA surveillance testing. However, because of the NUREG-1366 findings that most stuck rods have been discovered during physics testing or during plant startup, instead of during surveillance testing and the fact that the ANO-2 experience reflects these findings, reducing the test frequency at ANO-2 is desirable.

3.0 TECHNICAL CONCLUSION

Based on the staff evaluation in Section 2.0 above, the staff concludes that the proposed TS change is acceptable. This change is also consistent with the Standard Technical Specifications. We have 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 issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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 52929). 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: December 22, 1995