



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20585

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 117 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 October 19, 1989, Arkansas Power and Light Company, now, Entergy Operations, Inc. (the licensee) submitted a request for changes to the Arkansas Nuclear One, Unit No. 2 (ANO-2) Technical Specifications (TS). A surveillance program was originated to verify structural adequacy of the spent fuel pool when a construction error was found during construction. The horizontal reinforcing steel on the inside face of the spent fuel pool was incorrectly detailed, resulting in insufficient anchorage at the inside corners. As part of the remedial action, Technical Specification 3/4.7.12.1.a requires an inspection to be conducted every 18 months. The proposed change would increase the surveillance interval for the spent fuel storage pool from once per 18 months to once per 5 years, based upon past inspection results. In response to the staff's request for additional information on this subject, the licensee provided, on January 15, 1991, justification of the proposed change and its current procedure for inspection of the spent fuel pool. The January 15, 1991, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The following items concerning inspection and surveillance of the spent fuel pool provide bases for the staff's evaluation and resolution:

1. Significant Crack - The significance associated with a crack is dependent upon its size and impact upon the structural integrity of the spent fuel pool. In general, all cracks with width greater than 0.01 inch are considered as significant, and are measured and mapped. All cracks which impact the fuel pool integrity based upon engineering evaluation will require that appropriate reporting and corrective action be initiated.
2. Inspection Procedure - The licensee's Procedure 2306.1 "Spent Fuel Pool Crack Mapping and Visual Inspection" provides instruction for a long term survey and extended mapping program to ensure that the structural integrity of the Unit 2 spent fuel pool is intact. It also provides instructions for performing a visual inspection to verify that structural integrity is maintained.

- (a) Crack Mapping - This procedure requires a periodic inspection of the four grid zones laid out on the concrete surfaces at the spent fuel pool. Two are on elevation 404'-0" slab and two are on the exterior face of the column line 4 wall. The grids consist of 12-inch squares arranged in patterns and are laid out using paint or some other permanent type of marking system. The width of every visible crack is measured by optical comparator at the widest point on the portion of the crack line lying within the mapped area. Cracks having 0.01 inch or greater in width are measured and clearly marked.
 - (b) Visual Inspection - The purpose of a visual inspection is to determine the structural integrity of the spent fuel pool. A visual inspection should be performed on at least the interior and exterior surfaces of the pool, the struts in the tilt pit, the surfaces of the separation walls, and the structural slabs adjoining the pool walls, and should verify no changes in the concrete crack patterns, no abnormal degradation or other signs of structural distress.
3. Inspection Records - Thirteen inspections of the spent fuel pool concrete have been conducted over the last eleven years without observance of abnormal degradation or structural distress. The inspections prior to 1981 are noted for completeness and no cracking has been observed. With the exception of five cracks observed during the inspection conducted on March 20, 1985, all cracks observed were smaller than 0.01 inch wide and most were not structurally related. All cracks evaluated have been found not to impact the structural integrity of the spent fuel pool. The five cracks found in 1985 which exceeded the screening limit width have not grown.

Since the inspection record during the last eleven years shows no sign of abnormal degradation or worsening significant cracks, it is reasonable to adopt a longer surveillance frequency of once per 5 years. Furthermore, the proposed change does not involve a significant hazards consideration because it does not increase the probability and consequences of an accident or a malfunction of equipment important to safety. The increased inspection interval would not create a new or different accident possibility nor possibility of a malfunction of equipment important to safety.

Based on the staff evaluation of licensee submittals, responses to requests for additional information and licensee's inspection procedures, the staff concludes that the licensee's proposed Technical Specification change on spent fuel pool surveillance interval from once per 18 months to once per 5 years is reasonable and acceptable.

3.0 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.

4.0 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 in 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 (55 FR 8216). 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.

5.0 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.

6.0 REFERENCES

1. Letter from T. G. Campbell of AP&L to NRC, dated October 19, 1989. Subject: Proposed Technical Specification Change - Spent Fuel Storage Pool Surveillance Interval.
2. Letter from J. J. Fisicaro of Entergy Operations, Inc. to NRC, dated January 15, 1991. Subject: Response to Request for Additional Information on Spent Fuel Pool Technical Specification Change.
3. "Spent Fuel Pool Crack Mapping and Visual Inspection", ANO Procedure 2306.010, AP&L Rev. 3, April 19, 1990.

Principal Contributor: Sai P. Chan

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