



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 86 TO

FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By letter dated October 28, 1987, Arkansas Power and Light Company (AP&L or the licensee) requested an amendment to the Technical Specifications (TSs) appended to Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit 2 (ANO-2). The proposed amendment would change surveillance requirement 4.5.2.f.1 for the high pressure safety (HPSI) pumps. The proposed change involves a decrease in the required differential pressure developed by the HPSI pump from 1402.5 psid to 1360.4 psid.

2.0 EVALUATION

The effect of the proposed reduction in the required differential pressure developed by the HPSI flow is to alter the HPSI flow delivered to the reactor coolant system (RCS). The licensee indicated that the flow reduction would be small. Although the reduced flow was used by the licensee in its safety analysis of the change, the licensee is not proposing to alter the HPSI flow requirements given in Technical Specification 4.5.2.h.

The licensee reviewed the ANO-2 safety analysis report (SAR) to determine which accidents could potentially be affected by the change. Loss of coolant accident (LOCA) analyses, steam line break accident analysis and steam generator tube rupture analyses were identified as the affected accidents. Each of these were examined by the licensee.

For large break LOCA analyses, the proposed change was identified as having no impact as the combined HPSI and low pressure safety injection (LPSI) flow would still be sufficient to assure maintenance of a full downcomer during the reflood phase of the accident. For small break LOCAs, the licensee reanalyzed the limiting event and concluded that peak cladding temperature would increase by less than 20°F above the 1460°F previously calculated (FSAR Table 6.3-19) and the large break LOCA would still remain the limiting event.

The steam line break was reanalyzed using the reduced HPSI flow and the increased refueling water tank (RWT) boron concentration previously approved by the staff (License No. NPF-6, Amendment No. 82 issued March 11, 1988). The revised analysis showed that the consequences of a steam line break for Cycle 7 is bounded by that for the reference cycle, Cycle 2, previously approved by the staff.

The licensee concluded that a reduced HPSI flow would have only a small, but beneficial effect, on the steam generator tube rupture analysis.

For each cycle the licensee must perform a core reload analysis in accordance with 10 CFR 50.59 to verify that the consequences of the accidents analyzed in Chapter 15 of the Final Safety Analysis Report are still bounded by the accident analysis results for the reference cycle. The reduction in the HPSI pump minimum differential pressure requirement does not increase the consequences of those accidents beyond those accepted by the staff for Cycle 2.

Based on the staff's review of the licensee analyses, the staff finds the licensee's analysis acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The NRC staff has considered the environmental impact of the proposed changes to the Technical Specifications. An "Environmental Assessment and Finding of No Significant Impact" was published in the Federal Register on July 18, 1988 (53 FR 27091).

4.0 CONCLUSION

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

Date: July 28, 1988

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