



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER & LIGHT COMPANY
ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 Introduction

By letter dated July 8, 1982, Arkansas Power and Light Company proposed a Technical Specification change for ANO-2 to restrict movement of the full length and part length control element assembly (CEA) groups in order to reduce the analytical complexity of the Core Protection Calculator System software validation required for future cycles. The licensee has provided figures 3.1-2 and 3.1-3 as the full length and part length CEA insertion limit curves. A special test exception to specification 3.1.3.7 was requested by AP&L for performance of beginning-of-cycle physics tests. AP&L also requested that specification 3.1.3.6 be revised to expand the LCO portion of the specification to encompass the allowable modes of operation and that the ACTION statement be revised to reflect only additional requirements to the LCO. Our evaluation of the proposed TS change follows.

2.0 Evaluation

Specification 3.1.3.6 presently restricts operation with the regulating CEA groups inserted between the Long Term Steady State Insertion Limit (LTIL) and the Transient Insertion Limit (TIL) to periods less than 4 hours per 24 hour interval. An ACTION statement allows operation to proceed if this time interval condition is exceeded as long as the Short Term Steady State Insertion Limit (STIL) is not exceeded. This Technical Specification has been reformulated to essentially combine the ACTION statement with the insertion limit Limiting Condition for Operation (LCO). We find this modification acceptable since operation with regulating CEA insertion between the STIL and the TIL for more than 4 hours per 24 hour interval is still prohibited.

The full length CEA insertion limit curve (Fig. 3.1-2) has been modified so that CEA groups 2, 3, and 4 are fully withdrawn above 20% of rated thermal power. This results in increased shutdown margin due to additional scram worth for low power steam line break events. It also tends to reduce CEA worths and thus mitigates the consequences of Anticipated Operational Occurrences (AOOs), such as the CEA group withdrawal, and of accidents such as the CEA ejection. This modification is, therefore, acceptable.

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Specification 3.1.3.7 governing the LCO for part length CEA (PLCEA) insertion limits has been added. The specification includes Figure 3.1-3 which gives allowable transient and long term part length CEA insertion limits as a function of thermal power. We find this additional Technical Specification acceptable since it incorporates the CE Standard Technical Specification (STS) LCO restriction on core residence time and ACTION statements as well as the STS surveillance requirements. Also, the insertion limits have been established by previously used and approved methods. In addition, any single PLCEA or PLCEA group drop from the allowable insertion limit is bounded by the ANO-2 FSAR safety analyses.

We also find the inclusion of Technical Specification 3.1.3.7 in specification 3.10-2 for special test exceptions to be acceptable since adequate surveillance requirements and appropriate actions are specified if the linear heat rate exceeds its limits as specified in Figure 3.2-1. The PLCEA insertion limit exception is required for performance of start-up physics test measurements of power distributions.

3.0 Summary

The staff has reviewed the proposed Technical Specification change relating to the regulating and part length CEA insertion limits. The revised technical specification 3.1.3.6 and the proposed technical specification 3.1.3.7 have been found acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health

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

Date: November 5, 1982

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