



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 67 TO

FACILITY OPERATING LICENSE NO. DPR-51

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT NO. 1

DOCKET NO. 50-313

Introduction

By letter dated April 29, 1982, supplemented by letter dated May 10, 1982, Arkansas Power and Light Company (the licensee or AP&L) requested amendment of the Technical Specifications (TSs), Appendix A, appended to Facility Operating License No. DPR-51 for Arkansas Nuclear One, Unit No. 1 (ANO-1). The proposed changes would provide revised setpoints for high coolant temperature, high neutron flux and flux-flow-imbalance trips.

Background

The proposed changes are necessitated by the recent discovery by Babcock and Wilcox that certain values used in the calculation of protection system channel errors (the so-called string errors) were non-conservative. A generic analysis was performed and setpoints for ANO-1 were changed under administrative control. The plant-specific analysis for ANO-1 has now been completed and the licensee has requested an amendment which would provide revised setpoints in the TSs.

Evaluation

The increased string errors affect the moderator temperature, coolant flow, and neutron flux parameters in the protection system. Pressure measurements were not affected. The setpoints affected included those for the high coolant temperature, high neutron flux and flux-flow-imbalance trips. The nuclear power trip setpoint is reduced from 105.5 to 104.9 percent of full power and the high coolant temperature trip is reduced by one degree to 618 degrees Fahrenheit. The flux-flow-imbalance setpoint curve is affected by errors in all three parameters. As a result, the setpoint envelope is lowered and the "wings" are drawn nearer the zero imbalance line in the power-imbalance plane.

The revised protection system setpoints for the ANO-1 reactor are essentially the same as those which have been previously approved for other Babcock and Wilcox 177 fuel assembly plants. The proposed changes do not decrease the margin of safety or increase the probability or consequences of accidents. We find them to be acceptable for ANO-1.

### 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.

Dated: August 30, 1982

The following NRC personnel have contributed to this Safety Evaluation:  
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