



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 35 TO FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER & LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT 2

DOCKET NO. 50-368

1. Introduction

By letter dated August 23, 1982, Arkansas Power and Light Company proposed a Technical Specification (TS) change for ANO-2 to allow for testing of the electrical containment penetration conductor circuit breakers in accordance with manufacturer's recommendations. The existing TS require a representative sample of these circuit breakers to be tested every 18 months. The required test consists of injecting a short circuit value of fault current into the circuit breaker primary contacts and monitoring the response time of the contacts to open. The existing test criteria impose unrealistic and deleterious conditions on these devices. The magnitude of the currents injected to operate the circuit breakers in the instantaneous tripping range are excessively high (10-15 times normal load currents) and the corresponding response times to be monitored are very short (.012 and .017 seconds predominately). Since these protective devices were not designed to withstand repeated cycles at overcurrent conditions and recording of response times is of little value in the instantaneous tripping range, the licensee proposes instead to test the circuit breakers in accordance with "manufacturer's recommendations." The proposed TS deletes the requirement to measure response times and compare them to the design criteria. The staff evaluation of the proposed TS change follows.

2. Staff Evaluation

The licensee, in a letter dated September 22, 1982, has provided the manufacturer's recommendations which will be used to develop his test procedures. In general, the recommendations instruct that molded case circuit breaker time delay (thermal) trips should be tested by injecting a current equal to 300% of the breaker trip setting. The tripping time values thus obtained should be compared to the manufacturer supplied data. The instantaneous (magnetic) trips are tested by pulsing or running the current up to the pickup point of the instantaneous element and verifying that the circuit breaker trips.

The recommendations in general for low voltage air circuit breakers are to test the long time delay and short time delay trips by injecting a current equal to 300% of the long time delay setting and 150% of the pickup of the short time delay setting, then verifying that tripping times are in accordance with the manufacturer supplied data. The instantaneous trips are checked by verifying that the instantaneous trip element actuates at the instantaneous pickup setting of the circuit breaker (within $\pm 20\%$).

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3.0 Summary

The staff has reviewed the proposed TS change to allow for testing of the electrical penetration conductor circuit breakers in accordance with manufacturer's recommendations. These tests are an improvement over those previously required since each overcurrent trip element of the circuit breaker is tested rather than just the instantaneous trip element. Also, the magnitude of the current injected to operate the circuit breakers in the overcurrent tripping range has been decreased. The proposed change to the ANO-2 TS is therefore 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 §1.5(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: October 15, 1982

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