



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. DPR-46
NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
DOCKET NO. 50-298

1.0 INTRODUCTION

By letter dated May 3, 1988 (Change No. 58) the Nebraska Public Power District (the licensee) requested an amendment to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The proposed amendment would change the Technical Specifications to revise undervoltage relay setpoints.

2.0 DISCUSSION AND EVALUATION

Cooper Nuclear Station has two levels of undervoltage protection for each of the two 4160 VAC safety-related buses. The first level was installed during plant construction and has a setpoint of 2900 V $\pm 5\%$. The second level of undervoltage protection was installed in response to a June 3, 1977 staff letter concerning susceptibility of onsite electrical equipment to sustained degraded grid voltage. The second level of undervoltage protection of each electrical division includes two sets of undervoltage relays having contacts in series with a separate timer. The undervoltage relays also incorporate integral timers. The undervoltage relays are set at 3600 V $\pm 5\%$ and have a time delay set at 8 sec ± 2 sec. The actual time delay is inversely affected by the rate of voltage change. The separate timer installed in series with the relay contacts is set at 10 ± 2 seconds. These present Technical Specifications for the second level undervoltage protection system were approved in Amendment 43. The system design is consistent with Appendix A of ANSI/IEEE Std. 741-1986.

The inverse time characteristic of the second-level undervoltage relays is due to the induction-disk type design. The licensee plans to replace these relays during the 1988 refueling outage with solid state devices. This will permit independent adjustment of the voltage and time delay settings thereby permitting the second level undervoltage protection feature to more closely conform to its design basis requirement. The proposed new undervoltage relay setpoint is 3880 V ± 52 Volts with a timer setting of 7.5 ± 0.8 seconds. The setting of the separate timer in series with the relay contacts would be changed to 5 ± 0.5 seconds. The modification and associated setpoint changes will reduce spurious initiation of the undervoltage protection system.

The modification constitutes direct replacement of existing equipment with similar equipment having improved operating characteristics. The revised Technical Specifications reflect the improved operating character-

istics and do not represent a reduced margin on safety or relaxation of Limiting Conditions of Operation or Surveillance Requirements. The revised setpoints will improve the functioning of the protective feature and are conservative with respect to the current settings. Based on the above the proposed amendment is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 exposures. 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. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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.

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: August 3, 1988

Principal Contributor: W. Long