



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 49 TO FACILITY

OPERATING LICENSE NO. DPR-23

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

DOCKET NO. 50-261

Introduction

By letter dated October 3, 1979, Carolina Power and Light Company (the licensee) requested an amendment to License No. DPR-23 for H. B. Robinson Steam Electric Plant, Unit No. 2, which would add Technical Specification requirements related to the installation of a degraded grid voltage protection system discussed in the licensee's letter dated January 24, 1979.

Discussion

The criteria and staff positions pertaining to degraded grid voltage protection were transmitted to the licensee by NRC generic letter dated June 3, 1977. In response to this, by letters dated January 24, 1979 and October 3, 1979, the licensee proposed certain design modifications and changes to the Technical Specifications. A detailed review and technical evaluation of these proposed modifications and changes was performed by the Lawrence Livermore Laboratory (LLL) under contract to the NRC, and with general supervision by NRC staff. This work was reported in LLL report UCID-18673, "Technical Evaluation of the Proposed Design Modifications and Technical Specification Changes on Grid Voltage Degradation for the H. B. Robinson Steam Electric Plant Unit No. 2 dated August 1980 (attached).

The following design modifications and Technical Specification changes were proposed by the licensee:

- a. Installation of second level undervoltage relays, three on each of the two 480V Class 1E buses with a drop out setting at approximately 86% of nominal bus voltage and a 10 second time delay. These relays will be arranged in a 2-out-of-3 coincidence logic scheme. The same logic is used for the existing first level of undervoltage protection.
- b. Installation of circuitry to block the undervoltage trip load shedding feature on the 4160V Class 1E buses when the diesel generators are supplying these buses, and automatically reinstating this feature when the diesel generator breakers are tripped.

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- c. Addition of trip setpoint, limiting conditions for operation and surveillance requirements in the Technical Specifications associated with the design modifications cited above.

#### Evaluation

The criteria used by LLL in its technical evaluation of the above proposed changes include GDC-17, "Electric Power Systems," of Appendix A to 10 CFR 50; IEEE Standard 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations;" IEEE Standard 308-1974, "Class 1E Power Systems for Nuclear Power Generating Stations;" and the staff positions defined in NRC generic letter to CP&L dated June 3, 1977.

We have reviewed the LLL Technical Evaluation Report and concur in its findings that (1) the proposed modifications will protect the Class 1E equipment and systems from a sustained degraded voltage of the offsite power source, and (2) the proposed changes to the Technical Specifications meet the criteria for periodic testing of protection systems and equipment. Therefore, we conclude that CP&L's proposed design modifications and changes to the Technical Specifications are acceptable.

#### Environmental Considerations

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 consideration discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: September 19, 1980