



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 53 TO FACILITY

OPERATING LICENSE NO. DPR-23

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

DOCKET NO. 50-261

Introduction

By letter dated September 27, 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. These changes will increase the "low-low steam generator water level" minimum reactor trip setpoint from 5% to 14% of the narrow range instrument scale.

Discussion

High energy line breaks inside containment can result in heatup of the steam generator level measurement reference leg. Increased reference leg water column temperature will result in a decrease of the water column density with a consequent apparent increase in the indicated steam generator water level (i.e., apparent level exceeding actual level). This potential level bias could result in delayed protection signals (reactor trip and auxiliary feedwater initiation) which are based on low-low steam generator water level. In the case of a feedline rupture, this adverse environment could be present and could delay or prevent the primary signal arising from declining steam generator water level (low-low steam generator level). High pressurizer pressure, overtemperature delta T, high containment pressure and safety injection are backup signals to steam generator water level with an adverse containment environment. For other high energy line breaks which could introduce a similar positive bias to the steam generator water level measurement, steam generator level does not provide the primary trip function and the potential bias would not interfere with needed protection system actuation.

Evaluation

Westinghouse (NSSS vendor for the Robinson Plant) has advised that the potential temperature-induced bias described above can be compensated for by raising the steam generator low-low water level setpoint. Westinghouse has recommended a change in the allowable water level setpoint sufficient to accommodate the bias (up to 10% of the instrument's range) which could result from containment temperatures up to 280°F. Containment analyses

have shown that following a secondary high energy line break, a containment high pressure signal would be generated before the containment temperature reaches 280°F. To alleviate the error which could result from the temperature effect described above, the licensee has proposed to increase the minimum allowable low-low steam generator water level Technical Specification setpoint from 5% to 14% of the narrow range instrument scale, with the actual setpoint being 15%. Increasing the setpoint by 10% of the instruments range will ensure that the trip setpoint maintains conservatism and compensates for the potential 10% error and conforms to the Robinson Unit 2 Precautions, Limitations and Setpoint Document (WCAP-7694).

Based on our review of the licensee's submittal, we find the proposed changes to the Technical Specifications 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 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 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: December 10, 1980