



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 137 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 131 TO FACILITY OPERATING LICENSE NPF-52
DUKE POWER COMPANY, ET AL.
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated September 13, 1995, Duke Power Company, et al. (the licensee), submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would modify the notation for the overpower delta temperature (OPDT) reactor trip heatup setpoint penalty coefficient as delineated in Note 3 in TS Table 2.2-1 in order to make the nomenclature consistent with the Standard Technical Specifications and to facilitate a modification to reduce the reactor coolant system hot leg temperature as planned during the Unit 2 end-of-cycle 7 refueling outage.

2.0 EVALUATION

The overpower differential temperature equation in TS Table 2.2-1, "Reactor Trip System Instrumentation Trip Setpoints" contains a penalty, K_6 , as a function of coolant temperature (T). The K_6 penalty factor is applied whenever the temperature is above the indicated average coolant temperature (T_{avg}) at rated thermal power. This term is identified as T" and is limited to a value of less than or equal to 590.8 °F in the TS.

The licensee proposes to reduce the reactor coolant system hot leg temperature and, in turn, the cold leg temperature and the average temperature to enhance the life of the Inconel 600 steam generator tubes in Catawba Unit 2. This would result in T_{avg} going from 590.8 °F to 587.5 °F.

It is not necessary to change the TS value for T" (the indicated T_{avg} at rated thermal power) since, if the licensee plans to operate at a T_{avg} of 587.5 °F, this value is less than the current limit value of 590.8 °F in the TS. However, if the licensee is to redefine T_{avg} as ≤ 587.5 °F then the definition of K_6 requires revision because the penalty it represents is applied whenever the coolant temperature goes above T_{avg} . This is most practicably accomplished by changing the current fixed numerical value in the K_6 definition to the parameter T".

The change in the TS definition of K_6 , as discussed above, would be consistent with the "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," NUREG-0452, Revision 4a and with the "Standard Technical

Specifications - Westinghouse Plants," NUREG-1431, since both of these specifications define the threshold for applying K_6 in terms of the parameter T'' .

Changing the definition of K_6 in this manner will have no impact from a safety perspective since the penalty on the OPDT reactor trip setpoint will be applied at a lower coolant temperature which is conservative. On the bases discussed above, the staff finds the proposed change to be acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (60 FR 49933, dated September 27, 1995). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 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 amendments.

5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Robert E. Martin

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