



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NO. NPF-12

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-395

1.0 INTRODUCTION

By letter dated December 22, 1987, South Carolina Electric & Gas Company, the licensee, requested a change to the Technical Specification (TS) Section 3/4.7.11, "Area Temperature Monitoring" of the Virgil C. Summer Nuclear Station. The purpose of the proposed change is to modify Item 25, "Service Water Pump/Screen Room," in Table 3.7-7 of Section 3/4.7.11. Specifically, the amendment allows the licensee to raise the temperature limit from 102°F to 118°F in the service water/pump room.

2.0 EVALUATION

The NRC staff has reviewed the licensee's proposal to raise the temperature limit from 102°F to 118°F in Item 25 of Table 3.7-7 in Section 3/4.7.11. The licensee's submittal indicated that the original value of 102°F for Item 25 was based upon the temperature of the most limiting equipment located in the Service Water Switchgear Rooms. The service water pumps are not located in the Service Water Switchgear Rooms but are located in their own room. Actual qualification reports for the service water pump motors have a measured temperature rise above ambient of 37.2°C (67°F). The motors are rated 115°C above ambient. If the ambient temperature was assumed to be 39°C (102°F), then the allowable temperature for the motor would be 154°C (115°C + 39°C). Therefore, the motor has an approximate margin of 77°C temperature rise above ambient (115°C - 37.2°C ≈ 77°C). Increasing the allowable ambient temperature limit for the room to approximately 48°C (118°F) from approximately 39°C (102°F) has negligible impact on the service life of the motors. The licensee indicated that when the service life versus temperature curve found in the qualification report for the pump motors is extrapolated, the service life is still significantly greater than 40 years even at an ambient room temperature of 50°C.

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The traveling screen drive motors are also located in the Service Water Pump Room. The licensee's submittal indicated that the maximum temperature for these motors is 130°C according to the qualification program reports. The licensee indicated that these programs were based upon an ambient area temperature range of -29°C to 49°C (-20°F to 120°F) to support the qualification number and that increasing the TS limit to 48°C (118°F) would still support the qualification reports and also allow for instrument inaccuracies.

The staff has concluded that raising the ambient temperature limit of Item 25, Service Water Pump/Screen Room, of Table 3.7-7 to 188°F would not result in a decrease in the life of the service water pump motors and the traveling screen drive motors to below the anticipated 40 year life of the Station. Therefore, the proposed change is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change of a requirement with regard to installation or use of a facility component located within the restricted area 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 exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration, which was published in the Federal Register on February 24, 1988 (53 FR 5497) and consulted with the State of South Carolina. No public comments were received, and the State of South Carolina did not have any comments.

We have 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 this amendment will not be inimical to the common defense and security or to the safety of the public.

Principal Contributor: John J. Hayes, Jr.

Dated: June 6, 1988

AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NO. NPF-12 - VIRGIL C. SUMMER

Docket File

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