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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 38 TO PROVISIONAL OPERATING LICENSE NO. DPR-13

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1

DOCKET NO. 50-206

Introduction

By application dated December 30, 1977, (Proposed Change No. 68), Southern California Edison Company (SCEC) requested an amendment to the Provisional Operating License No. DPR-13 for the San Onofre Nuclear Generating Station, Unit 1 (SO-1). The amendment would change the provisions of the Technical Specifications to reduce the maximum allowable rate for pressurizer heatup from 195°F/hour to 100°F/hour. The amendment would also increase the allowable rate for pressurizer cooldown from 195°F/hour to 200°F/hour. In addition, the amendment would delete the provisions in Section 6.12 concerning the "Respiratory Protection Program" at SO-1.

Discussion and Evaluation

Proposed Change No. 68

In August 1977, Mitsubishi Heavy Industries, Ltd., of Japan, noted an inconsistency in the pressurizer heatup rate stated in their Technical Specifications. Specification 3.4.9 allows a heatup rate of 200°F/hour; Specification 5.7.1, however, allows a heatup rate of 100°F/hour. This discrepancy was reported to the vendor, Westinghouse Electric Corporation (Westinghouse), who then reviewed its analysis of the pressurizer heatup rate and determined that the correct heatup rate is 100°F/hour, and that the correct cooldown rate is 200°F/hour; the Technical Specifications for SO-1 stated that pressurizer heatup and cooldown rates were 195°F/hour. Westinghouse then notified the Nuclear Regulatory Commission (the Commission) and the licensee of this problem. The requested amendment would correct the error in the pressurizer heatup rate limit.

In designing the pressurizer Westinghouse performed a thermal stress analysis which analyzed the fatigue resulting from a heatup rate of 100°F/hour and cooldown rate of 200°F/hour. This analysis meets the standards of the ASME Code, Section III, which requires that the analysis be based on a usage factor. The usage factor represent the fraction of the fatigue life (the total amount of stress that a particular component is designed to handle), with a usage factor of zero implying that no stress has been exerted on the component, and a usage factor of one implying that the stress exerted on the component is equal to the amount of stress that the component is designed to handle. For any piece of equipment, certain components receive more stress than others. For the pressurizer, this component is the surge nozzle, which has a usage factor of 0.9 for the design numbers listed above. This usage factor is such that if the heatup and cooldown rates used in the analysis were exceeded more than a few times, the actual usage factor for the surge nozzle would exceed 1.0, which is not allowable under the ASME Code. Thus, we conclude that reducing the heatup rate limit from 195°F/hour to 100°F/hour is necessary to maintain thermal stresses in the pressurizer to allowable levels. For the same reasons, we further conclude that the proposed increase of the cooldown rate limit from 195°F/hour to 200°F/hour is acceptable.

Because of the current Technical Specification provision authorized higher rates of pressurizer heatup than the correct limit, the question arose as to whether the correct limit of 100°F per hour has been exceeded in the past. Discussions with Westinghouse indicate that this is unlikely. This is because system capabilities and Technical Specification limits on the rate of reactor coolant system heatup and pressurization effectively preclude pressurizer heatup rates in excess of 50°F to 75°F per hour.

Furthermore, the licensee has reviewed the operating records of SO-1. To date a pressurizer heatup rate of 100°F per hour has never been exceeded at SO-1. The maximum heatup rate observed has been about 70°F per hour and the normal heatup rate is in the range of 40°F to 55°F per hour. Accordingly, we conclude that the only action required by SO-1 is modification of the Technical Specifications to reduce the limiting pressurizer heatup rate of 195°F per hour to 100°F per hour.

Westinghouse is performing a review of the stress analyses for components of the reactor coolant pressure boundary to assure that no similar inadvertent error appears in any other portion of the applicable Technical Specifications. This action will be confirmed by Westinghouse.

Respiratory Protection Program

In our letter dated August 25, 1977, we advised the licensee that pursuant to 10 CFR 20.103(c) and (f), if it desires to receive credit for the use of respiratory protective equipment at SO-1 after December 28, 1977, such use must be as provided in Regulatory Guide 8.15 rather than as specified in the current Technical Specifications. The respiratory protective program described in Section 6.12 of the SO-1 Technical Specifications differs from that set forth in Regulatory Guide 8.15. In view of the provisions of Section 6.11 of the Technical Specifications, which require conformance with 10 CFR 20, the fact that 10 CFR 20.103 no longer requires specific authorization to employ respiratory protective equipment, and the revocation provisions of Technical Specification 6.12.3, we conclude that merely deleting Section 6.12 is appropriate. Since this modification applies only to changing from a plant specific respiratory protection program to an industry-wide program, in accordance with our request and position and the licensee had no objection to this action, we find it to be purely administrative in nature and acceptable.

Accordingly, pursuant to 10 CFR 20.103(c) and (f), if the licensee desires to receive credit for use of respiratory protective equipment at SO-1 after December 28, 1977, such use must be as stipulated in Regulatory Guide 8.15 rather than as was specified in deleted Technical Specification 6.12. Based on the revocation provision of the specification on respiratory protection noted above and in the absence of prior written objection from the licensee, we have deleted Specification 6.12 in its entirety from the Technical Specifications of License No. DPR-13.

Environmental Consideration

We have determined that this 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: November 17, 1978