



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 92 TO PROVISIONAL OPERATING LICENSE NO. DPR-13
SOUTHERN CALIFORNIA EDISON COMPANY AND
SAN DIEGO GAS AND ELECTRIC COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 1
DOCKET NO. 50-206

1.0 INTRODUCTION

By letter dated May 17, 1984, as amended March 17, 1986, Southern California Edison Company (the licensee) proposed changes to the San Onofre Nuclear Generating Station, Unit No. 1 Technical Specifications (TS).

The amendment modifies the TS to incorporate Reactor Coolant System (RCS) pressure-temperature limits that have been updated to account for recently measured irradiation effects on the reactor pressure vessel's nil ductility temperature (NDT).

2.0 DISCUSSION

Pressure-temperature limits must be calculated in accordance with the requirements of Appendix G, 10 CFR 50, which became effective on July 16, 1983. Pressure-temperature limits that are calculated in accordance with these requirements are dependent upon the fracture toughness properties for the limiting materials in the beltline and closure flange regions of the reactor vessel. The fracture toughness property used for calculating pressure-temperature limits is the reference temperature, RT_{NDT} . For beltline region materials, which can sustain substantial neutron irradiation, the pressure-temperature limits are dependent upon the initial RT_{NDT} and the increase in RT_{NDT} resulting from neutron irradiation damage. Since the closure flange region materials do not receive significant amounts of neutron irradiation, their pressure-temperature limits are dependent upon their initial RT_{NDT} .

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3.0 EVALUATION

In a letter dated January 31, 1985, from J. A. Zwolinski to K. P. Baskin, the staff concluded that the pressure-temperature limits proposed in the licensee's May 17, 1984 letter provided sufficient margin to account for neutron irradiation damage for 16 EFPY of operation. Revised curves, provided by the licensee in their submittal dated March 17, 1986, contain the same margins to account for neutron irradiation damage as the curves evaluated by the staff in the staff's letter dated January 31, 1985. Hence, the staff's conclusions in the January 31, 1985 letter regarding safety margin to account for neutron irradiation apply to the pressure-temperature limits presently being evaluated.

Section IV.A.2 of Appendix G, 10 CFR 50 requires, in part, that the temperature of the flange regions that are highly stressed by bolt preload must exceed the RT_{NDT} of the materials in those regions by at least 120°F for normal operation and 90°F for hydrostatic pressure and leak tests whenever the pressure exceeds 20 percent of the preservice system hydrostatic test pressure. As discussed in the safety evaluation contained in the letter dated January 31, 1985, the initial RT_{NDT} is 60°F for the limiting material in the San Onofre-1 closure flange region. The licensee's modified proposed curves require that the reactor coolant temperature must be greater than 180°F when the reactor coolant pressure exceeds 20 percent of the preservice system hydrostatic test pressure during heatup and cooldown, for normal operation, and hydrostatic pressure and leak testing. Since 180°F exceeds the RT_{NDT} of the limiting material in the closure flange region by 120°F, the licensee's pressure-temperature limits comply with the closure flange requirements of Section IV.A.2 of Appendix G, 10 CFR 50. The staff concludes, therefore, that the proposed TS meet all applicable requirements, and are acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as 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.

5.0 CONCLUSION

The staff 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, 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 health and safety of the public.

6.0 ACKNOWLEDGEMENT

This Safety Evaluation has been prepared by B. Elliott

Dated: May 21, 1986.

DISTRIBUTION:

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