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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE NO. NPF-41

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. STN 50-528

1.0 INTRODUCTION

By letter dated December 4, 1987, the Arizona Public Service Company (APS) on behalf of itself, the Salt River Project Agricultural Improvement and Power District, Southern California Edison Company, El Paso Electric Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority (licensees), requested changes to the Technical Specifications for the Palo Verde Nuclear Generating Station, Unit 1 (Appendix A to Facility Operating License No. NPF-41). The proposed changes would revise Technical Specification 3/4.5.1, "Safety Injection Tanks," and its associated Bases to be consistent with Specification 3/4.5.1 previously reviewed and approved by the staff for Palo Verde Units 2 and 3 (Facility Operating License Nos. NPF-51 and NPF-74, respectively).

2.0 DISCUSSION

The proposed changes to Technical Specification 3/4.5.1 consist of the following three parts:

(a) Limiting Condition for Operation 3.5.1.c currently specifies the safety injection tank (SIT) boron concentration lower and upper limits to be 2000 ppm and 4400 ppm, respectively. The proposed change revises the lower limit from 2000 ppm to 2300 ppm.

(b) Surveillance Requirement 4.5.1.b currently states that each SIT shall be demonstrated OPERABLE by verifying the boron concentration of the SIT solution is between 2000 and 4400 ppm at least once per 31 days and within 6 hours after each solution level increase of greater than or equal to 7% of the tank narrow range level. The proposed change revises this Surveillance Requirement to state that each safety injection tank shall be demonstrated OPERABLE by verifying that the boron concentration of the SIT solution is between 2300 and 4400 ppm at least once per 31 days and whenever the tank is drained to maintain the contained borated water level within the limits of Specification 3.5.1.b.

(c) Surveillance Requirement 4.5.1.c currently states that each SIT shall be demonstrated OPERABLE at least once per 31 days when the RCS pressure is above 700 psig, by verifying that power to the isolation valve operator is removed. The proposed change revises the Surveillance Requirement to lower the RCS pressure to 430 psia. This change is more conservative and agrees with the footnote on page 3/4 5-1 of this Specification which states, "In Mode 4 with pressurizer pressure less than 430 psia, the safety injection tanks may be isolated."

The purpose of this Technical Specification is to ensure the operability of each of the safety injection tanks. These tanks ensure that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the safety injection tanks. This initial surge of water into the RCS provides the initial cooling mechanism during large RCS pipe ruptures. The limits on safety injection tank volume, boron concentration, and pressure are established to ensure that the safety injection tanks will adequately perform their function in the event of such ruptures.

3.0 EVALUATION

The staff has reviewed the proposed changes to Specification 3/4.5.1 and has made the following determinations.

The accident that has the potential for being impacted by the proposed changes is the Loss of Coolant Accident (LOCA). The lowest SIT boron concentration that had been assumed in the Palo Verde LOCA analysis is 2000 ppm. Since, the boron concentration in SIT can be diluted by backleakage from the reactor coolant system, changes to the Specification are required to assure that the boron concentration in SIT does not go below 2000 ppm.

The first two changes are proposed to assure that the SIT boron concentration does not go below 2000 ppm. Based on the current limits on SIT level in Specification 3.5.1.b.(i.e., between 1802 and 1914 cubic feet). the maximum amount of backleakage that can occur is 112 cubic feet (i.e., 1914 - 1802) before the level requires adjustment and the boron concentration is checked. With the first two changes, this amount of leakage (assuming unborated water) would not dilute the resultant mixture in SIT below 2000 ppm boron even if the starting concentration is at 2300 ppm. Therefore, the proposed changes are conservative. The third change is proposed for consistency within the Specification itself.

All of the above changes were previously incorporated into the Technical Specifications for Palo Verde, Units 2 and 3 prior to issuance of their licenses. Therefore, the proposed changes in Specification 3/4.5.1 for Palo Verde Unit 1 make this Specification consistent with the Specifications issued for Palo Verde, Units 2 and 3.

On the basis of the above evaluation, the staff has concluded that the proposed changes to Specification 3/4.5.1 are acceptable.

4.0 CONTACT WITH STATE OFFICIAL

The Arizona Radiation Regulatory Agency has been advised of the proposed determination of no significant hazards consideration with regard to these changes. No comments were received.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes in the installation or use of facility components located within the restricted areas as defined in 10 CFR 20 and changes surveillance requirements. The staff has determined that this amendment involves no significant increase in the amount, and no significant change in the type, of any effluent that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued proposed findings that the amendment involves no significant hazard consideration, and there has been no public comment on such finding. Accordingly, the 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 to be prepared in connection with the issuance of this amendment.

6.0 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public. We, therefore, conclude that the proposed changes are acceptable.

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Dated: March 4, 1988