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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 36 TO FACILITY OPERATING LICENSE NO. NPF-41,

AMENDMENT NO. 23 TO FACILITY OPERATING LICENSE NO. NPF-51

AND AMENDMENT NO. 12 TO FACILITY OPERATING LICENSE NO. NPF-74

ARIZONA PUBLIC SERVICE COMPANY, ET. AL.

PALO VERDE NUCLEAR GENERATING STATION, UNIT NOS. 1, 2 AND 3

DOCKET NOS. STN 50-528, STN 50-529 AND STN 50-530

1.0 INTRODUCTION

By letter dated April 6, 1988, 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 a change to the Technical Specifications for the Palo Verde Nuclear Generating Station, Units 1, 2 and 3 (Appendix A to Facility Operating License Nos. NPF-41, NPF-51 and NPF-74, respectively). Modifications are proposed for TS 3/4.3.3.8, Radioactive Gaseous Effluent Monitoring Instrumentation and TS 3/4.11.2.5, Explosive Gas Mixture, to modify the monitoring requirements for hydrogen and oxygen in the waste gas holdup system.

2.0 EVALUATION

TS 3/4.11.2.5 is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen. This TS applies at all times and provides limits for the concentration of oxygen in the waste system whenever the hydrogen concentration exceeds 4.0 v/o, and also provides surveillance requirements for determining the hydrogen and oxygen concentrations. The proposed change will assume that the hydrogen concentration is always greater than 4.0 v/o, and will delete requirements to analyze the waste gas holdup system for hydrogen. In the proposal, the TS would be amended so that it would apply only when the waste gas holdup system is in service.

The radioactive gaseous effluent instrumentation required operable by TS 3/4.3.3.8 is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The instrumentation also includes provisions for monitoring (and controlling) the concentrations of potentially explosive gas mixtures in the gaseous radwaste system. Since, with these proposed changes, there is no need to monitor the hydrogen concentrations in the waste gas holdup system, these monitors can be removed from the TS.

There is a provision for sequentially analyzing (monitoring) the Chemical and Volume Control System (CVCS) tanks and the Waste Gas Decay Tank (WGDT) for oxygen. The licensee stated that the sequential oxygen monitoring system has never functioned as intended; and that, by amending the TS to require continuous monitoring of the header to the surge tank with dual monitors, the intent to monitor each of the CVCS tanks and the WGDT is satisfied. Therefore, the requirement to sequentially analyze the tanks can be deleted.

The licensee has stated that the design basis accident with respect to the gaseous radwaste system is a rupture of a WGDT. It is assumed that the cause is either an explosion or an operator error. The probability of an explosion occurring does not increase since the source of the gases (Surge Tank) pumped to the WGDT is still being monitored with dual analyzers for an explosive mixture. It will be assumed that the Surge Tank contains greater than 4.0 v/o hydrogen and the applicable action statements will be implemented based upon the sensed oxygen concentration as measured by the oxygen analyzers. Deleting the requirement of sampling the WGDT does not increase the probability of the accident occurring. The probability of an event initiated by operator error does not change since the proposed change does not affect operator actions. The Holdup Tank (HUT) will no longer be monitored periodically by the sampling system. By considering the volumes of unstripped water necessary to bring the HUT atmosphere to an explosive mixture, it's unlikely that the explosive limit would ever be reached.

In all cases, the rupture of the HUT is bounded by a rupture of the Refueling Water Tank (RWT), which is the limiting accident in the accident analyses per Section 15.7.2 of the FSAR. The probability of RWT rupture is not affected by this proposed change. Furthermore, the consequences of a WGDT rupture will not change since the proposed change does not affect the concentrations of radionuclides assumed present in the accident analysis.

The FSAR Chapter 15 analysis assumes the initiating event of a WGDT rupture is an explosion or operator error. A dispersal to the environment of a freshly filled WGDT or Surge Tank is the accident of interest. This accident has already been analyzed and is bounded by the Chapter 15 analysis of a WGDT rupture.

The proposed change also increases the margin of safety as defined in the basis of the Technical Specifications since it will be assumed that the waste gas holdup system always has a hydrogen concentration greater than 4.0 v/o when in service. The applicable action statement will be complied with whenever measured oxygen concentration exceeds 2.0 v/o or 4.0 v/o, respectively.

The proposed change is consistant with the guidelines of NUREG-0472, "Standard Radiological Technical Specifications for PWRs", February, 1980.

Based on its evaluation, the staff finds that the proposed amendments to the PVNGS Units 1, 2 and 3 TS are consistent with NUREG-0472 and are, therefore, acceptable.

3.0 CONTACT WITH STATE OFFICIAL

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

4.0 ENVIRONMENTAL CONSIDERATIONS

The amendments involve changes in the use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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. 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 to be prepared in connection with the issuance of these amendments.

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, (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.

Principal contributor: C. Nichols

Dated: September 6, 1988