



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NO. NPF-41  
AMENDMENT NO. 33 TO FACILITY OPERATING LICENSE NO. NPF-51  
AND AMENDMENT NO. 21 TO FACILITY OPERATING LICENSE NO. NPF-74  
ARIZONA PUBLIC SERVICE COMPANY, ET AL.  
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3  
DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

1.0 INTRODUCTION

By letter dated October 24, 1989 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, Units 1, 2, and 3 (Appendix A to Facility Operating License Nos. NPF-41, NPF-51, and NPF-74, respectively). The proposed changes would revise Technical Specification (TS) Section 3/4.3.1, "Reactor Protective Instrumentation," by changing Table 3.3-1 to add a new ACTION statement for the Excore Log Power and RPS Matrix Logic Channels.

2.0 DISCUSSION AND EVALUATION

Reactor Protective Instrumentation channels and bypasses are required to be OPERABLE as specified in Table 3.3-1. Maintaining the number of channels required to be operable in each operational mode ensures that (1) the associated reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its setpoints, (2) the specified coincidence logic is maintained, (3) sufficient redundancy will be maintained to permit a channel to be out of service for testing or maintenance, and (4) sufficient system functional capability is available from diverse parameters.

The purpose of the High Logarithmic Power channels is to ensure the integrity of the fuel cladding and RCS boundary in the event of an unplanned criticality from a shutdown condition, resulting from either dilution of the soluble boron concentration or an uncontrolled withdrawal of Control Element Assemblies (CEAs). In the event that CEAs are withdrawn, an automatic trip action will be initiated. If all CEAs are inserted, an alarm is provided to alert the operator to take appropriate action in the event of an unplanned criticality.

The current Technical Specifications Table 3.3-1 requires a minimum of 3 Logarithmic Power Level-High Channels and 3 RPS Matrix Logic Channels to



be operable in Modes 3, 4, and 5 when the reactor trip breakers are closed, the CEA drive system is capable of CEA withdrawal, and fuel is in the reactor vessel. With less than 3 operable channels the current ACTION Statement #8 requires that an inoperable channel must be restored to operable status within 48 hours or an "affected" reactor trip breaker must be opened within the next hour. Since the log power bistables input into the RPS matrix logic and are not assigned to any particular reactor trip breaker, the determination of which reactor trip breaker is the affected one for an inoperable log power channel or RPS Matrix logic channel is difficult. The proposed amendment will change the required action statement for this condition to ACTION #9 which requires restoration of the inoperable channel to operable status within 48 hours or open all the reactor trip breakers within the next hour.

The new ACTION #9 statement will eliminate possible confusion in the existing technical specification. Therefore the staff finds the proposed technical specification changes to be acceptable.

### 3.0 CONTACT WITH STATE OFFICAL

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.

### 4.0 ENVIRONMENTAL CONSIDERATIONS

The amendments changes a requirement with respect to in the installation or use of facility components 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 type, 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 the amendments 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: M. Davis

DATED: February 13, 1990



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