



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 22 TO FACILITY OPERATING LICENSE NO. NPF-41,  
AMENDMENT NO. 12 TO FACILITY OPERATING LICENSE NO. NPF-51  
AND AMENDMENT NO. 2 TO FACILITY OPERATING LICENSE NO. NPF-65  
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 July 1, 1987, as supplemented by letter dated August 7, 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 a change to the Technical Specifications for Palo Verde Nuclear Generating Station, Units 1, 2 and 3 (Appendices A to Facility Operating License Nos. NPF-41, NPF-51 and NPF-65, respectively). The application requested that Technical Specification Section 6.8.1.o, "CEA Symmetry Test Program Implementation" be renamed to "CEA Reactivity Integrity Program Implementation" and expansion of the related note to allow either the CEA Symmetry Test or worth measurements of all full length CEA groups to be performed following core reload or initial fuel load.

The current Technical Specifications require that the licensee perform Control Element Assembly (CEA) symmetry tests at the beginning of each cycle of operation. This requirement is the result of a concern about potential loss of control rod material from the control assemblies during operation. The CEA symmetry test was originally developed as a measurement technique to demonstrate at low reactor power levels, that no loading or fabrication errors had occurred. The CEA symmetry test can identify unexpected asymmetries in the core by comparing relative worths of symmetrically located control rods. However, work performed by CE for the CE owners group developed a CEA exchange test to replace the CEA symmetry test.\* The CE report has been approved by the NRC.

\*CEN-319 "Control Rod Group Exchange Technique," November 1985 prepared by Combustion Engineering for the CE Owners Group.

[The text in this section is extremely faint and illegible, appearing as a dense cloud of small black specks and light gray marks.]

## 2.0 EVALUATION

The measurement of the reactivity worth of selected control rod groups is required and routinely performed as part of the initial startup and prior to resuming power operation following each reactor refueling. This testing is performed to confirm that the measured control rod group worths conform to those predicted for the design and assumed in the analysis. These worths are specified to be measured using the boration-dilution method. However, the "Control Rod Group Exchange Technique" has shown that equivalent results are obtained if instead of the boration-dilution method for all groups, the rod exchange method is used for all groups except one. The group with the largest worth is measured using the boration-dilution method. The CE report referenced above has been approved by the NRC and this alternate measurement program (rod exchange) conforms to the ANSI/ANS-19.6.1, 1985 standards. The control rod group exchange method requires less time and results in less radiological waste water; thus, it is more economical. The rod exchange method provides all of the information that is derived from the CEA symmetry test; therefore, its substitution meets the intent of Technical Specification 6.8.1.0 for all three units.

Based on the above, the staff concludes that the proposed change to Specification 6.8.1.0 is acceptable.

## 3.0 CONTACT WITH STATE OFFICIAL

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

## 4.0 ENVIRONMENTAL CONSIDERATIONS

This amendment involves a change in the installation or use of facility components located within the restricted area as defined in 10 CFR 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 proposed findings that the amendments involve no significant hazards consideration, and there has been no public comment on such findings. 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.



[The text in this section is extremely faint and illegible due to low contrast and noise. It appears to be a large block of text, possibly a list or a series of paragraphs, but the individual characters and words cannot be discerned.]

## 5.0 SUMMARY

The staff has reviewed the submittal of the Arizona Nuclear Power Project, the licensee for Palo Verde nuclear power plants, regarding a Technical Specification change on the implementation of the control element assembly symmetry test. The staff found that the proposed change of the boration-dilution method to the control rod group exchange method is acceptable because the results are equivalent. In addition the method is described in CEN-319 which is an NRC approved report.

## 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 these 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: L. Lois

Dated: September 29, 1987

