

September 29, 1987

Docket Nos.: STN 50-528, STN 50-529  
and STN 50-530

Mr. E. E. Van Brunt, Jr.  
Executive Vice President  
Arizona Nuclear Power Project  
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Dear Mr. Van Brunt:

SUBJECT: ISSUANCE OF 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, FOR THE PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2 AND 3, RESPECTIVELY (TAC NOS. 65835, 65836 AND 65638)

The Commission has issued the subject Amendments, which are enclosed, to the Facility Operating Licenses for Palo Verde Nuclear Generating Station, Units 1, 2 and 3. The Amendments consist of changes to the Technical Specifications (Appendix A to each license) in response to your application transmitted by letter dated July 1, 1987 (as supplemented by letter dated August 7, 1987).

The Amendments revise the following Technical Specification for each of the three Palo Verde units. In the Administrative Controls, Procedures and Programs, Section 6.8.1.0 is changed to rename the CEA Symmetry Test Program to CEA Reactivity Program and to expand 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.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

Original signed by

Michael J. Davis, Project Manager  
Project Directorate V  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosures:

1. Amendment No. 22 to NPF-41
2. Amendment No. 12 to NPF-51
3. Amendment No. 2 to NPF-65
4. Safety Evaluation

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cc: See next page

DRSP/PDV  
JLae  
9/11/87

DRSP/PDV  
MDavis  
9/14/87

OGC  
Beth  
9/18/87

DRSP/PDV  
GK Knighton  
9/28/87

**Mr. E. E. Van Brunt, Jr.**  
**Arizona Nuclear Power Project**

**Palo Verde**

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Chairman  
Maricopa County Board of Supervisors  
111 South Third Avenue  
Phoenix, Arizona 85003



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

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-528

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 22  
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment, dated July 1, 1987 (as supplemented by letter dated August 7, 1987), by the Arizona Public Service Company (APS) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority (licensees), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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PDR

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-41 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 22, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
George W. Knighton, Director  
Project Directorate V  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: September 29, 1987

September 29, 1987

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 22 TO FACILITY OPERATING LICENSE NO. NPF-41

DOCKET NO. STN 50-528

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. Also to be replaced is the following overleaf page to the amended page.

Amendment Page

6-14

Overleaf Page

6-13

## ADMINISTRATIVE CONTROLS

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### 6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President-Nuclear Production, PVNGS Plant Manager and Supervisor of Nuclear Safety Group shall be notified within 24 hours.
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PRB. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.
- c. The Safety Limit Violation Report shall be submitted to the Commission, the Supervisor of the NSG and the Vice President-Nuclear Production within 14 days of the violation.
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, and those required for implementing the requirements of NUREG-0737.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. Modification of Core Protection Calculator (CPC) Addressable Constants.

NOTE: Modification to the CPC Addressable Constants based on information obtained through the Plant Computer - CPC data link shall not be made without prior approval of the PRB.

- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
- k. Pre-planned Alternate Sampling Program implementation.
- l. Secondary water chemistry program implementation.

## ADMINISTRATIVE CONTROLS

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### PROCEDURES AND PROGRAMS (Continued)

NOTE: The licensee shall perform a secondary water chemistry monitoring and control program that is in conformance with the program discussed in Section 10.3.4.1 of the CESSAR FSAR or another NRC approved program.

- m. Post-Accident Sampling System implementation.\*
- n. Settlement Monitoring Program implementation.

NOTE: The licensee shall maintain a settlement monitoring program throughout the life of the plant in accordance with the program presented in Table 2.5-18 of the PVNGS FSAR or another NRC approved program.

- o. CEA Reactivity Integrity Program implementation

NOTE: The licensee shall perform, after initial fuel load or after each reload, either a CEA symmetry test or worth measurements of all full-length CEA groups to address Section 4.2.2 of the PVNGS SER dated November 11, 1981.

- p. Fuel Assembly Surveillance Program Implementation

NOTE: The licensee shall perform a fuel assembly surveillance program in conformance with the program discussed in Section 4.2.4 of the PVNGS SER dated November 11, 1981.

6.8.2 Each program or procedure of Specification 6.8.1, and changes thereto, shall be reviewed as specified in Specification 6.5 and approved prior to implementation. Programs, administrative control procedures and implementing procedures shall be approved by the PVNGS Plant Manager, or designated alternate who is at supervisory level or above. Programs and procedures of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant supervisory staff, at least one of whom is a Shift Supervisor or Assistant Shift Supervisor with an SRO on the affected unit.
- c. The change is documented, reviewed in accordance with Specification 6.5.2 and approved by the PVNGS plant manager or cognizant department head, as designated by the PVNGS plant manager, within 14 days of implementation.

6.8.4 The following programs shall be established, implemented, maintained, and shall be audited under the cognizance of the NSG at least once per 24 months:

- a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the high pressure safety injection system, the shutdown cooling portion of the low pressure safety injection system, the post-accident sampling subsystem of the

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\*Not required until prior to exceeding 5% of RATED THERMAL POWER.



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

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-529

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 12  
License No. NPF-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment, dated July 1, 1987 (as supplemented by letter dated August 7, 1987), by the Arizona Public Service Company (APS) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority (licensees), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

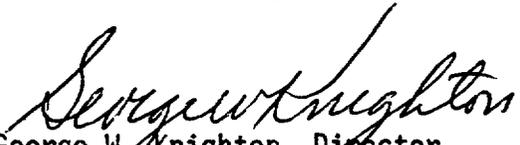
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-51 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 12, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
George W. Knighton, Director  
Project Directorate V  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: September 29, 1987

September 29, 1987

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 12 TO FACILITY OPERATING LICENSE NO. NPF-51

DOCKET NO. STN 50-529

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. Also to be replaced is the following overleaf page to the amended page.

Amendment Page

6-14

Overleaf Page

6-13

## ADMINISTRATIVE CONTROLS

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### 6.7 SAFETY LIMIT VIOLATION

The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President-Nuclear Production, PVNGS Plant Manager and Supervisor of Nuclear Safety Group shall be notified within 24 hours.
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PRB. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.
- c. The Safety Limit Violation Report shall be submitted to the Commission, the Supervisor of the NSG and the Vice President-Nuclear Production within 30 days of the violation.
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, and those required for implementing the requirements of NUREG-0737.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. Modification of Core Protection Calculator (CPC) Addressable Constants--These procedures should include provisions to ensure that sufficient margin is maintained in CPC Type I Addressable Constants to avoid excessive operator interaction with the CPCs during reactor operation.

NOTES: (1) Modification to the CPC Addressable Constants based on information obtained through the Plant Computer - CPC data link shall not be made without prior approval of the PRB.

(2) Modifications to the CPC software (including algorithm changes and changes in fuel cycle specific data) shall be performed in accordance with the most recent version of CEN-39(A)-P, "CPC Protection Algorithm Software Change Procedure," that has been determined to be applicable to the facility. Additions or deletions to CPC Addressable Constants or changes to Addressable Constant software limit values shall not be implemented without prior NRC approval.

## ADMINISTRATIVE CONTROLS

### PROCEDURES AND PROGRAMS (Continued)

- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
- k. Pre-planned Alternate Sampling Program implementation.
- l. Secondary water chemistry program implementation.

NOTE: The licensee shall perform a secondary water chemistry monitoring and control program that is in conformance with the program discussed in Section 10.3.4.1 of the CESSAR FSAR or another NRC approved program.

- m. Post-Accident Sampling System implementation.\*
- n. Settlement Monitoring Program implementation.

NOTE: The licensee shall maintain a settlement monitoring program throughout the life of the plant in accordance with the program presented in Table 2.5-18 of the PVNGS FSAR or another NRC approved program.

- o. CEA Reactivity Integrity Program implementation

NOTE: The licensee shall perform, after initial fuel load or after each reload, either a CEA symmetry test or worth measurements of all full-length CEA groups to address Section 4.2.2 of the PVNGS SER dated November 11, 1981.

- p. Fuel Assembly Surveillance Program Implementation

NOTE: The licensee shall perform a fuel assembly surveillance program in conformance with the program discussed in Section 4.2.4 of the PVNGS SER dated November 11, 1981.

6.8.2 Each program or procedure of Specification 6.8.1, and changes thereto, shall be reviewed as specified in Specification 6.5 and approved prior to implementation. Programs, administrative control procedures and implementing procedures shall be approved by the PVNGS Plant Manager, or designated alternate who is at supervisory level or above. Programs and procedures of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant supervisory staff, at least one of whom is a Shift Supervisor or Assistant Shift Supervisor with an SRO on the affected unit.
- c. The change is documented, reviewed in accordance with Specification 6.5.2 and approved by the PVNGS plant manager or cognizant department head, as designated by the PVNGS plant manager, within 14 days of implementation.

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\*Not required until prior to exceeding 5% of RATED THERMAL POWER.



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

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-530

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 2  
License No. NPF-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment, dated July 1, 1987 (as supplemented by letter dated August 7, 1987), by the Arizona Public Service Company (APS) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority (licensees), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

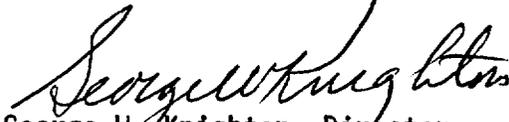
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-65 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 2, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George W. Knighton, Director  
Project Directorate V  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: September 29, 1987

September 29, 1987

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 2 TO FACILITY OPERATING LICENSE NO. NPF-65

DOCKET NO. STN 50-529

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. Also to be replaced is the following overleaf page to the amended page.

Amendment Page

6-14

Overleaf Page

6-13

## ADMINISTRATIVE CONTROLS

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### 6.7 SAFETY LIMIT VIOLATION

The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President-Nuclear Production, PVNGS Plant Manager and Supervisor of Nuclear Safety Group shall be notified within 24 hours.
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PRB. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.
- c. The Safety Limit Violation Report shall be submitted to the Commission, the Supervisor of the NSG and the Vice President-Nuclear Production within 30 days of the violation.
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, and those required for implementing the requirements of NUREG-0737.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. Modification of Core Protection Calculator (CPC) Addressable Constants--These procedures should include provisions to ensure that sufficient margin is maintained in CPC Type I Addressable Constants to avoid excessive operator interaction with the CPCs during reactor operation.

NOTES: (1) Modification to the CPC Addressable Constants based on information obtained through the Plant Computer - CPC data link shall not be made without prior approval of the PRB.

(2) Modifications to the CPC software (including algorithm changes and changes in fuel cycle specific data) shall be performed in accordance with the most recent version of CEN-39(A)-P, "CPC Protection Algorithm Software Change Procedure," that has been determined to be applicable to the facility. Additions or deletions to CPC Addressable Constants or changes to Addressable Constant software limit values shall not be implemented without prior NRC approval.

## ADMINISTRATIVE CONTROLS

### PROCEDURES AND PROGRAMS (Continued)

- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
- k. Pre-planned Alternate Sampling Program implementation.
- l. Secondary water chemistry program implementation.

NOTE: The licensee shall perform a secondary water chemistry monitoring and control program that is in conformance with the program discussed in Section 10.3.4.1 of the CESSAR FSAR or another NRC approved program.

- m. Post-Accident Sampling System implementation.\*
- n. Settlement Monitoring Program implementation.

NOTE: The licensee shall maintain a settlement monitoring program throughout the life of the plant in accordance with the program presented in Table 2.5-18 of the PVNGS FSAR or another NRC approved program.

- o. CEA Reactivity Integrity Program implementation

NOTE: The licensee shall perform, after initial fuel load or after each reload, either a CEA symmetry test or worth measurements of all full-length CEA groups to address Section 4.2.2 of the PVNGS SER dated November 11, 1981.

- p. Fuel Assembly Surveillance Program Implementation

NOTE: The licensee shall perform a fuel assembly surveillance program in conformance with the program discussed in Section 4.2.4 of the PVNGS SER dated November 11, 1981.

6.8.2 Each program or procedure of Specification 6.8.1, and changes thereto, shall be reviewed as specified in Specification 6.5 and approved prior to implementation. Programs, administrative control procedures and implementing procedures shall be approved by the PVNGS Plant Manager, or designated alternate who is at supervisory level or above. Programs and procedures of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant supervisory staff, at least one of whom is a Shift Supervisor or Assistant Shift Supervisor with an SRO on the affected unit.
- c. The change is documented, reviewed in accordance with Specification 6.5.2 and approved by the PVNGS Plant Manager or cognizant department head, as designated by the PVNGS Plant Manager, within 14 days of implementation.

\*Not required until prior to exceeding 5% of RATED THERMAL POWER.



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.

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

## 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.

## 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