

February 13, 1990

Docket No. STN 50-528, STN 50-529  
and STN 50-530

Mr. William F. Conway  
Executive Vice President  
Arizona Public Service Company  
Post Office Box 52034  
Phoenix, Arizona 85072-2034

Dear Mr. Conway:

SUBJECT: ISSUANCE OF 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 FOR THE PALO VERDE NUCLEAR GENERATING STATION,  
UNITS 1, 2, AND 3 (TAC NOS. 75369, 75370, AND 75371)

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 October 24, 1989.

The amendments revise Palo Verde Nuclear Generating Station (PVNGS) Technical Specifications 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.

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

Sincerely,

ORIGINAL SIGNED BY T. CHAN  
Terence L. Chan, Senior Project Manager  
Project Directorate V  
Division of Reactors Projects - III,  
IV, V and Special Projects  
Office of Reactor Regulation

Enclosures:

1. Amendment No. 46 to NPF-41
2. Amendment No. 33 to NPF-51
3. Amendment No. 21 to NPF-74
4. Safety Evaluation

cc: See next page

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

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NO. NPF-41, AMENDMENT NO.33 TO FACILITY OPERATING LICENSE  
NO. NPF-51 AND AMENDMENT NO. 21 TO FACILITY OPERATING LICENSE  
NO. NPF-74 FOR THE PALO VERDE NUCLEAR GENERATING STATION,  
UNITS 1, 2, AND 3 (TAC NOS. 75369, 75370, AND 75371)

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The amendments revise Palo Verde Nuclear Generating Station (PVNGS) Technical Specifications 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.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Terence L. Chan", written over a horizontal line.

Terence L. Chan, Senior Project Manager  
Project Directorate V  
Division of Reactors Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 46 to NPF-41
2. Amendment No. 33 to NPF-51
3. Amendment No. 21 to NPF-74
4. Safety Evaluation

cc: See next page

Mr. William F. Conway  
Arizona Public Service Company

Palo Verde

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(7)



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. 46  
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment, dated October 24, 1989 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;
  - 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-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. 46, 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

*Charles M. Trammell*

Charles M. Trammell, Acting Director  
Project Directorate V  
Division of Reactor Projects III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: February 13, 1990

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NO. NPF-41

DOCKET NO. STN 50-528

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 3-3

3/4 3-4

3/4 3-8

Insert Pages

3/4 3-3

3/4 3-4

3/4 3-8

TABLE 3.3-1  
REACTOR PROTECTIVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. TRIP GENERATION					
A. Process					
1. Pressurizer Pressure - High	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
2. Pressurizer Pressure - Low	4	2 (b)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
3. Steam Generator Level - Low	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
4. Steam Generator Level - High	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
5. Steam Generator Pressure - Low	4/SG	2/SG	3/SG	1, 2, 3*, 4*	2 <sup>#</sup> , 3 <sup>#</sup>
6. Containment Pressure - High	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
7. Reactor Coolant Flow - Low	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
8. Local Power Density - High	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
9. DNBR - Low	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
B. Excore Neutron Flux					
1. Variable Overpower Trip	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
2. Logarithmic Power Level - High					
a. Startup and Operating	4	2 (a)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
	4	2	3	3*, 4*, 5*	9
b. Shutdown	4	0	2	3, 4, 5	4
C. Core Protection Calculator System					
1. CEA Calculators	2	1	2 (e)	1, 2	6, 7
2. Core Protection Calculators	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup> , 7

TABLE 3.3-1 (Continued)  
REACTOR PROTECTIVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
D. Supplementary Protection System					
Pressurizer Pressure - High	4 (f)	2	3	1, 2	8
II. RPS LOGIC					
A. Matrix Logic	6	1	3	1, 2	1
	6	1	3	3*, 4*, 5*	9
B. Initiation Logic	4	2	4	1, 2	5
	4	2	4	3*, 4*, 5*	8
III. RPS ACTUATION DEVICES					
A. Reactor Trip Breaker	4 (f)	2	4	1, 2	5
	4 (f)	2	4	3*, 4*, 5*	8
B. Manual Trip	4 (f)	2	4	1, 2	5
	4 (f)	2	4	3*, 4*, 5*	8

TABLE 3.3-1 (Continued)

ACTION STATEMENTS

2. Within 4 hours:
    - a) All full-length and part-length CEA groups are withdrawn to and subsequently maintained at the "Full Out" position, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2 or for control when CEA group 5 may be inserted no further than 127.5 inches withdrawn.
    - b) The "RSPT/CEAC Inoperable" addressable constant in the CPCs is set to be indicated that both CEAC's are inoperable.
    - c) The Control Element Drive Mechanism Control System (CEDMCS) is placed in and subsequently maintained in the "Standby" mode except during CEA group 5 motion permitted by a) above, when the CEDMCS may be operated in either the "Manual Group" or "Manual Individual" mode.
  3. At least once per 4 hours, all full-length and part-length CEAs are verified fully withdrawn except during surveillance testing pursuant to Specification 4.1.3.1.2 or during insertion of CEA group 5 as permitted by 2.a) above, then verify at least once per 4 hours that the inserted CEAs are aligned within 6.6 inches (indicated position) of all other CEAs in its group.
- ACTION 7 - With three or more auto restarts, excluding periodic auto restarts (Code 30 and Code 33), of one non-bypassed calculator during a 12-hour interval, demonstrate calculator OPERABILITY by performing a CHANNEL FUNCTIONAL TEST within the next 24 hours.
- ACTION 8 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore an inoperable channel to OPERABLE status within 48 hours or open an affected reactor trip breaker within the next hour.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.



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. 33  
License No. NPF-51

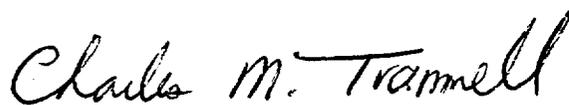
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment, dated October 24, 1989 by the Arizona Public Service Company (APS) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern 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;
  - 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. 33, 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



Charles M. Trammell, Acting Director  
Project Directorate V  
Division of Reactor Projects III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: February 13, 1990

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 33 TO FACILITY OPERATING LICENSE NO. NPF-51

DOCKET NO. STN 50-529

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 3-3

3/4 3-4

3/4 3-8

Insert Pages

3/4 3-3

3/4 3-4

3/4 3-8

TABLE 3.3-1

REACTOR PROTECTIVE INSTRUMENTATION					
FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
I. TRIP GENERATION					
A. Process					
1. Pressurizer Pressure - High	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
2. Pressurizer Pressure - Low	4	2 (b)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
3. Steam Generator Level - Low	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
4. Steam Generator Level - High	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
5. Steam Generator Pressure - Low	4/SG	2/SG	3/SG	1, 2, 3*, 4*	2 <sup>#</sup> , 3 <sup>#</sup>
6. Containment Pressure - High	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
7. Reactor Coolant Flow - Low	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
8. Local Power Density - High	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
9. DNBR - Low	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
B. Excore Neutron Flux					
1. Variable Overpower Trip	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
2. Logarithmic Power Level - High					
a. Startup and Operating	4	2 (a)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
	4	2	3	3*, 4*, 5*	9
b. Shutdown	4	0	2	3, 4, 5	4
C. Core Protection Calculator System					
1. CEA Calculators	2	1	2 (e)	1, 2	6, 7
2. Core Protection Calculators	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup> , 7

TABLE 3.3-1 (Continued)  
REACTOR PROTECTIVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
D. Supplementary Protection System					
Pressurizer Pressure - High	4 (f)	2	3	1, 2	8
II. RPS LOGIC					
A. Matrix Logic	6	1	3	1, 2	1
	6	1	3	3*, 4*, 5*	9
B. Initiation Logic	4	2	4	1, 2	5
	4	2	4	3*, 4*, 5*	8
III. RPS ACTUATION DEVICES					
A. Reactor Trip Breaker	4 (f)	2	4	1, 2	5
	4 (f)	2	4	3*, 4*, 5*	8
B. Manual Trip	4 (f)	2	4	1, 2	5
	4 (f)	2	4	3*, 4*, 5*	8

TABLE 3.3-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION

ACTION STATEMENTS

2. Within 4 hours:
    - a) All full-length and part-length CEA groups are withdrawn to and subsequently maintained at the "Full Out" position, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2 or for control when CEA group 5 may be inserted no further than 127.5 inches withdrawn.
    - b) The "RSPT/CEAC Inoperable" addressable constant in the CPCs is set to indicate that both CEACs are inoperable.
    - c) The Control Element Drive Mechanism Control System (CEDMCS) is placed in and subsequently maintained in the "Standby" mode except during CEA group 5 motion permitted by a) above, when the CEDMCS may be operated in either the "Manual Group" or "Manual Individual" mode.
  3. At least once per 4 hours, all full-length and part-length CEAs are verified fully withdrawn except during surveillance testing pursuant to Specification 4.1.3.1.2 or during insertion of CEA group 5 as permitted by 2.a) above, then verify at least once per 4 hours that the inserted CEAs are aligned within 6.6 inches (indicated position) of all other CEAs in its group.
- ACTION 7 - With three or more auto restarts, excluding periodic auto restarts (Code 30 and Code 33), of one non-bypassed calculator during a 12-hour interval, demonstrate calculator OPERABILITY by performing a CHANNEL FUNCTIONAL TEST within the next 24 hours.
- ACTION 8 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore an inoperable channel to OPERABLE status within 48 hours or open an affected reactor trip breaker within the next hour.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.



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. 21  
License No. NPF-74

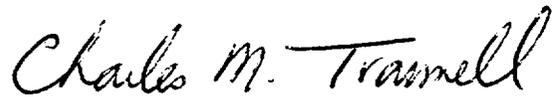
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment, dated October 24, 1989 by the Arizona Public Service Company (APS) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern 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;
  - 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-74 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.21, 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



Charles M. Trammell, Acting Director  
Project Directorate V  
Division of Reactor Projects III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: February 13, 1990

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 21 TO FACILITY OPERATING LICENSE NO. NPF-74

DOCKET NO. STN 50-530

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 3-3

3/4 3-4

3/4 3-8

Insert Pages

3/4 3-3

3/4 3-4

3/4 3-8

TABLE 3.3-1  
REACTOR PROTECTIVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
<b>I. TRIP GENERATION</b>					
<b>A. Process</b>					
1. Pressurizer Pressure - High	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
2. Pressurizer Pressure - Low	4	2 (b)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
3. Steam Generator Level - Low	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
4. Steam Generator Level - High	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
5. Steam Generator Pressure - Low	4/SG	2/SG	3/SG	1, 2, 3*, 4*	2 <sup>#</sup> , 3 <sup>#</sup>
6. Containment Pressure - High	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
7. Reactor Coolant Flow - Low	4/SG	2/SG	3/SG	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
8. Local Power Density - High	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
9. DNBR - Low	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
<b>B. Excore Neutron Flux</b>					
1. Variable Overpower Trip	4	2	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
2. Logarithmic Power Level - High					
a. Startup and Operating	4	2 (a)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup>
	4	2	3	3*, 4*, 5*	9
b. Shutdown	4	0	2	3, 4, 5	4
<b>C. Core Protection Calculator System</b>					
1. CEA Calculators	2	1	2 (e)	1, 2	6, 7
2. Core Protection Calculators	4	2 (c)(d)	3	1, 2	2 <sup>#</sup> , 3 <sup>#</sup> , 7

TABLE 3.3-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
D. Supplementary Protection System					
Pressurizer Pressure - High	4 (f)	2	3	1, 2	8
II. RPS LOGIC					
A. Matrix Logic	6	1	3	1, 2	1
	6	1	3	3*, 4*, 5*	9
B. Initiation Logic	4	2	4	1, 2	5
	4	2	4	3*, 4*, 5*	8
III. RPS ACTUATION DEVICES					
A. Reactor Trip Breaker	4 (f)	2	4	1, 2	5
	4 (f)	2	4	3*, 4*, 5*	8
B. Manual Trip	4 (f)	2	4	1, 2	5
	4 (f)	2	4	3*, 4*, 5*	8

TABLE 3.3-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION

ACTION STATEMENTS

1. Within 1 hour the DNBR margin required by Specification 3.2.4b (COLSS in service) or 3.2.4d (COLSS out of service) is satisfied and the Reactor Power Cutback System is disabled, and
  2. Within 4 hours:
    - a) All full-length and part-length CEA groups must be withdrawn within the limits of Specifications 3.1.3.5, 3.1.3.6b, and 3.1.3.7b, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2. Specification 3.1.3.6b allows CEA Group 5 insertion to no further than 127.5 inches withdrawn.
    - b) The "RSPT/CEAC Inoperable" addressable constant in the CPCs is set to indicate that both CEAC's are inoperable.
    - c) The Control Element Drive Mechanism Control System (CEDMCS) is placed in and subsequently maintained in the "Standby" mode except during CEA motion permitted by Specifications 3.1.3.5, 3.1.3.6b and 3.1.3.7b, when the CEDMCS may be operated in either the "Manual Group" or "Manual Individual" mode.
  3. CEA position surveillance must meet the requirements of Specifications 4.1.3.1.1, 4.1.3.5, 4.1.3.6 and 4.1.3.7 except during surveillance testing pursuant to Specification 4.1.3.1.2.
- ACTION 7 - With three or more auto restarts, excluding periodic auto restarts (Code 30 and Code 33), of one non-bypassed calculator during a 12-hour interval, demonstrate calculator OPERABILITY by performing a CHANNEL FUNCTIONAL TEST within the next 24 hours.
- ACTION 8 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore an inoperable channel to OPERABLE status within 48 hours or open an affected reactor trip breaker within the next hour.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.



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