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 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publ 05000530
 AUTH.NAME: AUTHOR AFFILIATION
 VAN BRUNT,E.E. Arizona Public Service Co.
 RECIP.NAME: RECIPIENT AFFILIATION
 KNIGHTON,G.W. Licensing Branch 3

SUBJECT: Forwards evaluation confirming compliance w/App R
 requirements re capability to achieve & maintain cold
 shutdown within 72 h of control room fire procedures
 41A0-1ZZ44 need not be revised, per discussions w/P Qualls.

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Arizona Nuclear Power Project

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Director, Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

ANPP-32496-EEVB/TFQ
April 25, 1985

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Docket Nos. STN 50-528 (License No. NPF-34)/529/530
Appendix R. Compliance (Achieve and Maintain Cold
Shutdown within 72 hours.)
File: 85-056-026; G.1.01.10

Reference: Letter from D. F. Kirsch, NRC-Reg. V, to E. E. Van Brunt, Jr., APS,
dated April 4, 1985.

Dear Mr. Knighton:

In response to an open item from the March 4-8, 1985, Appendix R Audit conducted by NRC Region V, as documented in the reference letter, an evaluation is provided to confirm that the PVNGS complies with the requirements of 10CFR50, Appendix R, with regard to capability to achieve and maintain cold shutdown within 72 hours of a control room fire. Cold Shutdown, as defined by the PVNGS Unit 1 Technical Specifications, is sub-critical ($K_{eff} < 0.99$), zero power, and Cold Leg Temperature $\leq 210^{\circ}\text{F}$.

The open item was the result of the audit team's review of the Shutdown Outside the Control Room due to Fire and/or Smoke, PVNGS Procedure No. 41A0-1ZZ44. This procedure did not require the operators to achieve cold shutdown conditions within 72 hours and it also requires a 55 hour soak time at $T_c=300^{\circ}\text{F}$ to preclude Reactor Vessel Upper Head voiding during depressurization. This procedure, in conjunction with the PVNGS Technical Specifications, was discussed with the audit team, and it was shown that cold shutdown conditions could be achieved in 72 hours.

Table A and its footnotes provide the summary of the procedure using the alternate shutdown capability. As shown on Table A, even with a temperature soak of 55 hours, cold shutdown can be achieved in 61 hours with equipment which is independent of the control room, which is where the fire is assumed to occur. Therefore, the requirement of 10CFR50, Appendix R, Section III.L is met and the current plant procedure, 41A0-1ZZ44, need not be revised to support the information provided in Table A. Also, we believe the procedure should not require cold shutdown be achieved within 72 hours. This has been discussed with Mr. Phil Qualls, NRC-Region V, and he concurs that the intent of the inspection report was for ANPP to demonstrate that cold shutdown could be achieved per the requirement of 10 CFR 50, Appendix R, Item III.L, not to require by procedure that cold shutdown be achieved within 72 hours.


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Mr. George W. Knighton, Chief
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Please contact Mr. W. F. Quinn of my staff if you have any questions.

Very truly yours,

A handwritten signature in dark ink, appearing to read "E. E. Van Brunt, Jr.", with a stylized flourish at the end.


E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/TFQ/das


cc: E. A. Licitra (all w/a)
R. P. Zimmerman
P. Qualls
A. C. Gehr

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Executive Vice President, Arizona Nuclear Power Project, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.


Edwin E. Van Brunt, Jr.

Sworn to before me this 25th day of April, 1985.


Notary Public

My Commission Expires:

My Commission Expires Nov. 12, 1988

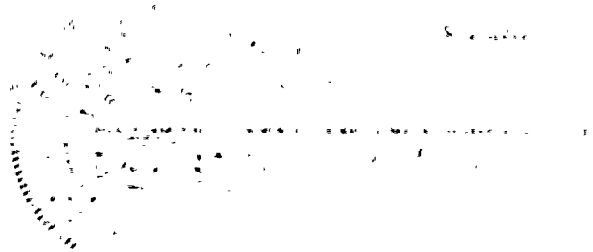
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TABLE A

Summary of the Shutdown Outside the Control Room
due to Fire and/or Smoke (PVNGS Procedure No. 41A0-1ZZ44)

<u>Temperature</u>	<u>Pressure</u>	<u>Cooldown Rate</u>	<u>Depressurization Rate</u>	<u>Duration (hr.)</u>
565°F ^(a) to 300°F	2250 psia	60°F/hr ^(b)	N/A	4.4
300°F ^(c)	2250 psia	0°F/hr	N/A	55 ^(d)
300°F	2250 psia to 450 psia	N/A	0.7 psi/sec ^(e)	0.7
300°F to 210°F	450 psia	100°F/hr ^(f)	N/A	<u>0.9</u>
			Total	61 hours

Footnotes:

- (a) Normal operating cold leg temperature.
- (b) Maximum cooldown rate as specified by 41A0-1ZZ44, Step 4.7.
- (c) Hold temperature as specified by 41A0-1ZZ44, Step 4.8 to allow the reactor vessel head to cool and to preclude upper head voiding during depressurization.
- (d) Duration to reduce plant conditions from normal operating conditions (565°F, 2250 psia) to shutdown cooling system entry conditions (300°F, 450 psia) under natural circulation conditions. Reference: Letter from A. E. Scherer, CE, to D. G. Eisenhut, NRC, dated August 12, 1983 (CESSAR Docket No. STN 50-470F).
- (e) Depressurization rate available with auxiliary spray system, assuming only one charging pump operating and letdown isolated. Reference: CEN-239 "Depressurization and Decay Heat Removal; Response to NRC Questions" prepared for the CE Owners Group by CE, dated June, 1983.
- (f) Maximum cooldown rate as specified by Technical Specification 3.4.8.1.

