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ACCESSION NBR:8806160237 DOC.DATE: 88/06/09 NOTARIZED: NO DOCKET #  
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 STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529  
 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530  
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SUBJECT: Responds to deviation noted in Insp Repts 50-528/88-12,  
 50-529/88-13 & 50-530/88-12.

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## Arizona Nuclear Power Project

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102-00820-JGH/TDS/KLMC  
June 9, 1988

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2, and 3  
Docket Nos. STN 50-528 (License NPF-41)  
STN 50-529 (License NPF-51)  
STN-50-530 (License NPF-74)  
Response to Notice of Deviation 50-528/88-12-03  
File: 88-056-026

Reference: Letter from R. J. Pate, NRC, to E. E. Van Brunt, Jr., ANPP, dated  
May 12, 1988. NRC Inspection of Palo Verde Units 1, 2 and 3  
(Report Nos. 50-528/88-12, 50-529/88-13, 50-530/88-12)

Dear Sirs:

This letter is in response to the inspection conducted by Messrs. J. F. Melfi, B. Marcus and A. Udy on April 4 through April 8, 1988. Based on the results of the inspection a deviation from ANPP commitments to the NRC was identified. The deviation is discussed in Appendix A of the referenced letter.

The deviation and ANPP's response are provided in the attachment to this letter. If you should have any questions regarding this response, contact Mr. Timothy Shriver of my staff at (602) 393-2521.

Very truly yours,

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

EEVB/TDS/KLMC/kj

### Attachments

cc: J. G. Haynes (all w/a)  
J. B. Martin  
T. J. Polich  
E. A. Licitra  
A. C. Gehr



APPENDIX A

NOTICE OF DEVIATION

Arizona Nuclear Power Project  
Palo Verde Units 1, 2, and 3

Docket Nos. 50-528, 50-529, 50-530  
License Nos. NPF-41, NPF-51, NPF-74

As a result of the inspection conducted during the period of April 4 through April 8, 1988, a deviation from your commitments to the NRC was identified. In accordance with the "General Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the following deviation was identified:

Table 2 of Regulatory Guide 1.97, Revision 2 recommends the range of Wide Range Steam Generator Level instrumentation to be: "From tube sheet to separators."

Palo Verde Nuclear Generating Station (PVNGS) FSAR, Section 1.8 - Conformance to NRC Regulatory Guide states: "PVNGS compliance with the recommendations of Revision 2 to Regulatory Guide 1.97 is addressed in table 1.8-1".

Table 1.8-1 classifies the Wide Range Steam Generator Level instrumentation as category 1 instrumentation with a range of 0 to 100%. Table 1.8-1 states that the instrumentation complies with the recommendations stated in Regulatory Guide 1.97.

Contrary to the above, at the time of the inspection, the Wide Range Steam Generator Level instrumentation had a lower tap approximately 12



feet above the tube sheet and the upper tap approximately 4 1/2 feet above the bottom of the separator. This range is approximately 31 to 112 per cent of the range described in the Regulatory Guide.

This is a Deviation.





ATTACHMENT A

Response to Notice of Deviation

50-528/88-12-03

A. REASON FOR THE DEVIATION

During the course of the inspection, the inspectors identified that the range of the Steam Generator Wide Range Level instrumentation was from 143 inches above the tube sheet to approximately 55.5 inches above the bottom of the separators. This does not meet the recommendations of Regulatory Guide 1.97, Revision 2, which recommends the Steam Generator Wide Range Level instrumentation range for the Type D variables be from the tube sheet to the separators and also does not meet ANPP commitments as stated in the PVNGS FSAR, Section 1.8, Table 1.8-1.

ANPP has reviewed the documentation which incorporated the commitments concerning Regulatory Guide 1.97, Revision 2, compliance into the PVNGS FSAR. This review indicates that the procedural controls were properly implemented, however, a personnel error occurred during the review of the Steam Generator Level Type D variable range for the verification of the accurate tap location.

In addition, it has been determined that the physical location of the Steam Generator Wide Range Level tap was due to design considerations,



Response to Notice of Deviation (Continued)

specifically, the inability to adequately indicate level in the economizer region due to flow characteristics in this area. Therefore, the tap location is above the economizer region.

B. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

ANPP has initiated a change to the PVNGS FSAR to modify our commitments to Regulatory Guide 1.97, Revision 2, to take exception to the recommendation concerning the range of the Steam Generator (SG) Wide Range level and to indicate the proper location of the SG Wide Range level taps. This FSAR change will formally document the justification of the location of the taps. ANPP believes this change has no safety significance because adequate margin is provided for indication of the ultimate heat sink from the reactor.

ANPP has verified that the design drawings from the vendor reflect the proper locations of the SG Wide Range Level taps. ANPP has also verified that the PVNGS Operations Department is trained that when the SG Wide Range Level reading is 0% this indicates that approximately one-third tube coverage remains. Operations procedures also reflect that when there is 0% indicated Wide Range level that one-third tube coverage remains. These indicate the Operations personnel are aware of the proper location of the taps.



Response to Notice of Deviation (Continued)

C. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER DEVIATIONS

ANPP will perform a review of the PVNGS FSAR Table 1.8-1 to ensure no further deviations to Regulatory Guide 1.97, Revision 2, exist. This review will entail an independent technical review which will be performed by Quality Engineering, Electrical/I&C.

The root cause identified in section A was attributed to a personnel error in the development of the table and in the review cycle. The error initially occurred in the 1983-1984 time frame and carried forward in subsequent submittals. Since that time, procedural controls used in both the development of this type of information and the required review process have been modified. Therefore, although a specific corrective action has not been identified for the individuals involved or the processes which may have contributed to the error, ANPP believes the programs which are now in place, will be effective in preventing recurrence.

D. DATE WHEN CORRECTIVE ACTIONS WILL BE COMPLETED

ANPP estimates the completion of the FSAR change to Table 1.8-1 by August 15, 1988.



The technical review of FSAR Table 1.8-1 is expected to be completed by August 15, 1988 and if any discrepancies are identified by this review, the necessary corrective actions will be implemented.

