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SUBJECT: Responds to NRC 950512 ltr re deviation noted in insp repts  
50-528/95-06, 50-529/95-06 & 50-530/95-06. Corrective actions:  
GTG operating procedures (550P-0GT01 & 550P-0GT02) revised &  
simplified.

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EXECUTIVE VICE PRESIDENT  
NUCLEAR

102-03390-WLS/AKK/DLK  
June 9, 1995

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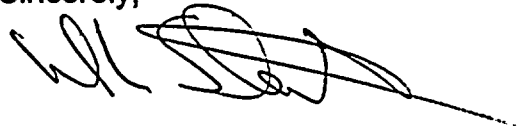
Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)**  
**Units 1, 2, and 3**  
**Docket Nos. STN 50-528/529/530**  
**Reply to Notice of Deviation 50-528/529/530/95-06-02**

Arizona Public Service Company (APS) has reviewed NRC Inspection Report 50-528/529/530/95-06 and the Notice of Deviation (NOD) dated May 12, 1995. The events that led to an automatic trip of the Station Blackout Gas Turbine Generator (GTG) output breaker were the result of ineffective test control, human error, and poor communications. APS has taken action to reinforce management's expectations for command and control of such evolutions and to enhance the training provided to GTG operators. We are confident that the GTG operators are fully capable of operating the GTGs to mitigate the effects of a Station Blackout.

APS' response to the NOD is enclosed. Enclosure 1 to this letter is a restatement of the NOD. APS' response is provided in Enclosure 2. Should you have any further questions, please contact Ms. Angela K. Krainik at (602) 393-5421.

Sincerely,



WLS/AKK/DLK/pv

Enclosures:

1. Restatement of the Notice of Deviation
2. Reply to the Notice of Deviation

cc: L. J. Callan  
B. E. Holian  
K. E. Johnston  
K. E. Perkins

9506130442 950609  
PDR ADCK 05000528  
Q PDR

TEO1



**ENCLOSURE 1**

**RESTATEMENT OF NOTICE OF DEVIATION 50-528/529/530/95-06-02,**

**NRC INSPECTION CONDUCTED**

**FEBRUARY 26 THROUGH APRIL 8, 1995**

**INSPECTION REPORT Nos. 50-528/529/530/95-06**



**Restatement of Notice of Deviation 50-528/529/530/95-06-02**

During an NRC inspection conducted on February 26 through April 8, 1995, a deviation of your Updated Final Safety Analysis Report was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the deviation is listed below:

The Palo Verde Updated Final Safety Analysis Report, Section 17.2F.6, provides Quality Assurance commitments for station blackout coping equipment. Section 17.2F.6.3.2.3, "Instructions, Procedures, and Drawings," states, in part, that "...tests...for compliance with 10 CFR 50.63 shall be prescribed by documented instructions, procedures, and drawings and shall be accomplished in accordance with these documents."

In partial implementation of these commitments, Procedure 70TP-2GT02, Revision 0, "GTG Parallel Operation With Nonclass 1E Loads," provided the instructions for testing the gas turbine generators (GTGs). Step 8.1.11.1 states, in part, to complete Section 6.4 of Procedure 55OP-0GT01, "Gas Turbine Generator 1 Operating Instructions," prior to paralleling GTG #1 to offsite power. Procedure 55OP-0GT01, Section 6.4, Step 6.4.3.1, specifies that the operator ensure that the GTG 1 speed control isoch/droop switch is in the droop position.

Contrary to the above, on March 9, 1995, prior to paralleling GTG 1 to offsite power, a nonlicensed operator did not accomplish testing of station blackout coping equipment (the GTGs) in accordance with test instructions in that he did not ensure that the GTG 1 speed control isoch/droop switch was in the droop position. The switch remained in the isoch position and as a result GTG 1 tripped when it was paralleled to offsite power.





**ENCLOSURE 2**

**REPLY TO NOTICE OF DEVIATION 50-528/529/530/95-06-02**

**NRC INSPECTION CONDUCTED**

**FEBRUARY 26 THROUGH APRIL 8, 1995**

**INSPECTION REPORT Nos. 50-528/529/530/95-06**



**REPLY TO NOTICE OF DEVIATION 50-528/529/530/95-06-02**

**Reason for Deviation**

On March 9, 1995, Arizona Public Service Company (APS) was conducting a post-modification test on the Gas Turbine Generators (GTGs) that were installed to comply with the Station Blackout (SBO) requirements of 10CFR50.63. During the test, a procedural step was inadvertently omitted, and as a result, the GTG-1 output breaker tripped when Unit 2 Control Room operators attempted to synchronize the GTG with offsite power.

Procedure 70TP-2GT02, "GTG Parallel Operation with Non-Class 1E Loads," was being conducted to demonstrate proper parallel operation of the two GTGs while operating with isolated non-class 1E plant loads. Successful completion of the test required a coordinated effort by the Test Director (TD), an operator in the GTG Control Room, and Unit 2 Control Room operators. The GTGs are classified as Quality Augmented, and the applicable Quality Assurance requirements are defined in Section 17.2F.6 of the Palo Verde Nuclear Generating Station (PVNGS) Updated Final Safety Analysis Report (UFSAR), "Quality Assurance for Station Blackout Coping Equipment."

During normal conditions, the GTGs are under the operational control of the Water Reclamation Facility (WRF); however, during the post-modification testing being performed on March 9, 1995, a TD was assigned to conduct and control the testing activities and a WRF operator was assigned to assist. The test was being controlled from the GTG Control Room which is located outside the power block in close proximity to the GTGs. The GTG Control Room will comfortably accommodate two operators;



however, during the testing activities being performed on March 9, 1995, the number of individuals in the GTG Control Room, most of whom were observers, ranged from 9 to 12.

During the test, the TD directed the WRF operator to coordinate with the Unit 2 Control Room and complete section 6.4 (Offsite Power Restoration) of Procedure 55OP-0GT01, "Gas Turbine Generator #1 Operating Instructions." Section 6.4 included steps to ensure the speed control ISOCH/DROOP switch was placed in the DROOP position and to synchronize GTG-1 with offsite power. The WRF operator became distracted while performing Section 6.4 and inadvertently omitted the step that ensured the speed control switch was placed in the DROOP position. He continued to coordinate with the Unit 2 Control Room to synchronize GTG-1 with offsite power. The TD was not expecting the GTG to be synchronized with offsite power since he knew that the switch had not yet been placed in the DROOP position. Unit 2 Control Room operators synchronized GTG-1 with offsite power with the speed control switch in the ISOCH position instead of the DROOP position, and the GTG output breaker tripped. Omitting the step in the GTG operating procedure to ensure that the speed control switch was in the DROOP position was a failure to comply with the procedure and a deviation from commitments made in section 17.2F.6 of the PVNGS UFSAR.



The reasons for the deviation were poor work/test practices that can be summarized as follows:

The WRF operator did not fully understand his accountabilities relative to his support function during the performance of testing activities.

- The WRF operator assumed that procedural compliance would be maintained through the directions given by the TD.
- The WRF operator was "rushed" during the test, reducing his attention to detail while operating the GTG.
- The WRF operator became distracted during the test by the continuous interruptions from the telephone and questions and comments from individuals observing the test.

The TD did not adequately control testing activities.

- No formal pre-test briefing was held with the WRF operator or Unit 2 Control Room personnel prior to starting the test.
- The number of individuals in the GTG Control Room was not limited, and as a result, confusion and anxiety were present in the GTG Control Room at the time of the test.
- Formal communications, including repeat backs, between the TD the WRF operator and the Unit 2 Control Room were not enforced.





### **Corrective Actions Taken and Results Achieved**

Following the GTG-1 output breaker trip on March 9, 1995, the post-modification test was stopped and both GTGs were returned to standby. Subsequently, APS management expectations relative to command and control over testing activities were discussed with the TD. The WRF GTG operators were briefed on management expectations regarding operational control accountabilities associated with the GTGs, viewed a video titled "PV Operations Department Principles and Standards," and were provided formal training on GTG operation. The training included job performance measures, command and control expectations, procedural adherence, self-verification checking techniques, formal communications, and the Stop, Think, Act, and Review (STAR) program.

The GTG operating procedures (55OP-0GT01 and 55OP-0GT02) were revised and simplified. The revision in effect on March 9, 1995, contained several notes and cautions that complicated the procedure.

### **Corrective Actions That Will Be Taken to Avoid Further Deviations**

The actions discussed above are sufficient to avoid further deviations.

### **Date When Full Compliance Will Be Achieved**

Full compliance was achieved on March 10, 1995, when post-modification testing was successfully performed.

