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102-02554-WFC/TRB/PJC
June 28, 1993

WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

U. S. Nuclear Regulatory Commission
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Washington, DC 20555

Reference: Letter dated May 28, 1993, from C. A. VanDenburgh, Chief, Reactor Projects Branch, NRC, to W. F. Conway, Executive Vice President, Nuclear, APS

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 Violations
50-529/93-11-02 and 50-528/93-11-09
File: 93-070-026

Arizona Public Service Company (APS) has reviewed NRC Inspection Report 50-528/529/530/93-11 and the Notice of Violations dated May 28, 1993. Enclosure 1 to this letter is a restatement of the two violations discussed in the Notice of Violations. APS' response is provided in Enclosure 2.

Should you have any questions, please call Thomas R. Bradish at (602) 393-5421.

Sincerely,

WFC/TRB/PJC

Enclosures
1. Restatement of Notice of Violation
2. Reply to Notice of Violation

cc: B. H. Faulkenberry
J. A. Sloan

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ENCLOSURE 1

RESTATEMENT OF NOTICE OF VIOLATIONS

NRC INSPECTION CONDUCTED

MARCH 25, 1993 THROUGH APRIL 26, 1993

NRC INSPECTION REPORT 50-528/529/530/93-11

RESTATEMEN' ' OF NOTICE OF VIOLATIONS 50-528/529/530/93-11

During an NRC inspection conducted on March 25 through April 28, 1993, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part, Appendix C, the violations are listed below:

A. Unit 2 Technical Specification 4.4.4.4.a states that the plugging limit is an imperfection depth at or beyond which the tube shall be removed from service and is equal to 40% of the nominal tube wall thickness, and that such tubes are defective. Technical Specification 4.4.4.4.b states that the steam generator shall be determined OPERABLE after completing the corresponding actions (plug all tubes exceeding the plugging limit) required by Table 4.4-2. Table 4.4-2 requires defective tubes to be plugged.

Contrary to the above, on December 31, 1991, Unit 2 steam generator number 2 was declared OPERABLE despite defective tube R17-C152 not being plugged. This tube had an imperfection depth of 70% of the nominal tube wall thickness, exceeding the plugging limit of 40%.

This is a Severity Level IV violation (Supplement I) applicable to Unit 2.

B. Unit 1 Technical Specification 6.8.1 states, in part, that written procedures shall be established, implemented and maintained covering the applicable procedures recommended in Appendix 'A' of Regulatory Guide 1.33, February, 1978.

Regulatory Guide 1.33, Appendix A states, in part, that maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Procedure 30DP-9MP01, Revision 4.09, "Conduct of Maintenance," step 3.10.2, states that the Work Group Supervisor (WGS) indicates, by signature, proper completion of the work and work package documentation.

Contrary to the above, on November 18, 1992, the Work Group Supervisor signed Work Order 00365041 as complete without updating the valve designation list after a valve was replaced, as specified by the work order.

This is a Severity Level IV Violation (Supplement I) applicable to Unit 1.

ENCLOSURE 2

REPLY TO NOTICE OF VIOLATIONS

NRC INSPECTION CONDUCTED

MARCH 25, 1993 THROUGH APRIL 26, 1993

NRC INSPECTION REPORT NOS. 50-528/529/530/93-11

REPLY TO VIOLATION A (50-529/93-11-02)

Admission Or Denial Of The Alleged Violation

APS admits the violation.

Reason For The Violation

During eddy current testing in the course of the fourth, Unit 2 refueling outage (2R4), APS engineering personnel identified a tube in steam generator #2 that had not been properly plugged during the previous Unit 2 refueling outage in November 1991. On April 15, 1993, steam generator tube R17/L152 was found to have been correctly plugged and verified on the cold leg side, but the tube had not been plugged on the hot leg side. The plug that had been installed and verified on the hot leg side was installed in an incorrect tube location (R17/L158).

The steam generator tube misplugging event is attributable to errors by the contract manipulator operator and the PVNGS Quality Control (QC) inspector in locating and verifying the correct tube to be plugged. The misplugged tube was located on the wrong side of the reference point column which suggests that the contract manipulator operator and the PVNGS QC inspector may have become disoriented with regard to the direction of the tube location relative to the reference point.

The independent verification prior to closure of the steam generator should have identified the misplugged tube. Review of the independent verification video tape revealed the tape

was not of sufficient clarity for personnel to verify that a plug was installed in the proper location, but the tape was sufficiently clear to identify that a plug was installed on the opposite side of the reference point in a location other than the one called out in the verification tape. The method for verifying tube locations during plug installation and verification evolutions was determined to be a contributory factor in the errors which caused this violation. The verification process requires tube plugging personnel and QC inspectors to work in tandem using remote visual means for determining the proper locations for plug installation.

A similar tube misplugging event, which occurred during the 1988 refueling outage, was identified and documented in 1990. Following that event, corrective action included the revision of the steam generator tube plugging procedure to require second party verification. The difficulties associated with the location and verification of steam generator tubes, i.e., the number of tubes in a steam generator and the remote visual methods used to locate them, were apparently not taken into consideration when the corrective action for the previous event was developed. Therefore, the corrective action was not sufficient to prevent recurrence. It has been determined that a comprehensive training course, as described below, should provide personnel with the skills to avoid further violations of this nature.

Corrective Steps That Have Been Taken And Results Achieved

A Material Nonconformance Report has been initiated to ensure tube end R17/L152 (hot

leg) and tube end R17/L158 (cold leg) will be plugged prior to entry into Mode 4 operation at the completion of the current Unit 2 refueling outage (2R4).

Both contractor and APS QC personnel involved in ongoing tube plugging activities have been briefed on the circumstances of this incident.

A formal APS QC Inspector training course for steam generator tube location and verification (QMZAC) has been developed and implemented with the assistance of contract company personnel. This comprehensive training course includes the use of actual tubesheet verification videos to familiarize QC inspectors with the tubesheet layout, improved verification methods (including a multiple point verification system), and the lessons learned from this incident. All QC inspectors involved in refueling outage 2R4 tube plugging activities have completed training course QMZAC.

Corrective Steps That Will Be Taken To Avoid Further Violations

The QC training described above will be a prerequisite for performing future tube plugging verification activities. By August 31, 1993, QC inspection controls will be implemented to require that inspectors complete QC training course QMZAC prior to performing tube plug verifications.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved when tube ends R17/L152 (hot leg) and R17/L158 (cold leg) are properly plugged and verified prior to Mode 4 entry after the completion of refueling outage 2R4.

REPLY TO VIOLATION B (50-528/93-11-09)

Admission Or Denial Of The Alleged Violation

APS admits the violation.

Reason For The Violation

Work Order No. 00365041 was developed to replace an existing valve with a Kerotest MK# 329 valve. This work order was part of an extensive valve replacement effort that has been taking place over several years. The final step in the restoration section of the work order was for the Work Control planner/coordinator to submit a "paper change only" Plant Change Request (PCR) to Engineering to initiate a Field Change Request to update the Valve Designation List. The work order was signed as complete by the Work Group Supervisor (WGS) without the step being completed as required by procedure 30DP-MP01, "Conduct of Maintenance." The violation is attributed to an error by an individual who was acting in the capacity of WGS at the time the work package documentation was being completed in November 1992.

A contributing factor was the wording of the work order step which assigned the action to the Work Control planner/coordinator. The acting WGS assumed the planner/coordinator would complete the step when the work package was returned to Work Control for closure. At the outset of the valve replacement project in 1988 there had been an informal agreement between Work Control and Maintenance Welding

personnel that the planner/coordinator would complete the PCR initiation steps; however, subsequent changes in Maintenance and Work Control methods had eliminated this practice prior to November 1992 when this work order was closed.

Corrective Steps That Have Been Taken And Results Achieved

The Equipment Data Base and the Valve Designation List have been updated to include Kerotest Valve No. 1PSIEV827.

Corrective Steps That Will Be Taken To Avoid Further Violations

As a result of its evaluation, APS determined that the informal agreement between Maintenance and Work Control personnel for the completion of the PCR initiation steps was limited to the Welding Group and specifically to the valve replacement project. Maintenance will review the work orders associated with the valve replacements. Archived work orders will be reviewed for omissions. and the equipment data base will be corrected as necessary. Active work orders will be corrected to assign initiation of the Valve Designation List change request to the work group supervisors. The work order review and any necessary corrections will be completed by November 1, 1993.

The details of this violation and management's expectations for procedural adherence will be reviewed with Central Maintenance Welding personnel by July 31, 1993.

Date When Full Compliance Will Be Achieved

Full Compliance was achieved when the Valve Designation List was updated and Work Order No. 00365041 was properly completed.