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 CONWAY,W.F. Arizona Public Service Co. (formerly Arizona Nuclear Power
 RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Responds to NRC 920407 ltr re violations noted in Insp Rept
 50-528/92-05 on 920126-0229. Corrective actions: hydrogen test
 bottles, filled by local vendor, removed from svc, quarantined
 & returned to vendor & condition rept initiated.

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WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

102-02147-WFC/TRB/JRB
May 14, 1992

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Mail Station: P1-37
Washington, DC 20555

Reference: Letter dated April 7, 1992, from S. A. Richards, Chief, Reactor Projects Branch, NRC, to W. F. Conway, Executive Vice President, Nuclear, Arizona Public Service Company.

Gentlemen:

**Subject: PALO VERDE NUCLEAR GENERATING STATION (PVNGS)
UNITS 1, 2 AND 3
REPLY TO NOTICE OF VIOLATIONS 50-528/92-05-01, 50-528/92-05-02
AND 50-528/92-05-03
File: 92-070-026**

Arizona Public Service Company (APS) has reviewed NRC Inspection Report 50-528, 529, 530/92-05 and the Notice of Violations dated April 7, 1992. Pursuant to the provisions of 10 CFR 2.201, APS' response is attached. Appendix A to this letter is a restatement of the Notice of Violations. APS' response is provided in Attachment 1. Per telephone conversation on May 6, 1992, between H. J. Wong, NRC, and T. R. Bradish, APS, an extension of the due date for this response from May 7, 1992, to May 15, 1992. This extension was necessary as a result of PVNGS Unit 3 being in an ALERT emergency classification from May 4, 1992, through May 6, 1992.

Should you have any questions regarding this response, please contact me.

Sincerely,



WFC/TRB/JRB/dmn
Attachments

1. Appendix A - Restatement of Notice of Violations
2. Attachment 1 - Reply to Notice of Violations

cc: J. B. Martin

D. H. Coe
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APPENDIX A

**RESTATEMENT OF NOTICE OF VIOLATIONS 50-528/92-05-02,
50-528/92-05-01 AND 50-528/92-05-03**

**NRC INSPECTION CONDUCTED JANUARY 26, 1992 -
FEBRUARY 29, 1992**

INSPECTION REPORT NOS. 50-528, 529, AND 530/92-05



RESTATEMENT OF NOTICE OF VIOLATIONS 50-528/92-05-02,
50-528/92-05-01 AND 50-528/92-05-03

During an NRC inspection conducted on January 26 through February 29, 1992, three violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. Unit 1 Technical Specification 6.8.1 states, in part, that written procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February, 1978.

Regulatory Guide 1.33, Revision 2, Appendix A, recommends surveillance procedures and general plant operating procedures.

1. Surveillance procedure 36ST-9SB02, "PPS Bistable Trip Units Functional Test," Step 8.11.6.2, requires the test performer to "ensure LO SG2 PRESS Trip Setpoint (Parameter 12) is at the MAXIMUM VALUE when in Mode 1 or 2. Adjust as necessary."

Contrary to the above, on February 4, 1992, when performing step 8.11.6.2, the test performer failed to ensure the LO SG2 PRESS trip setpoint (parameter 12) was at the maximum value when the unit was in Mode 1, resulting in the setpoint being approximately 50 pounds per square inch less than [sic] the minimum value allowed by Technical Specifications 2.2.1 and 3.3.2.

2. General operating procedure 40DP-90P05, "Control Room Data Sheet Instructions," Step 2.3.2, requires that a reactor operator report "any abnormal and/or unusual condition" while filling out the Control Room Data Sheets.

Contrary to the above, on February 4, 1992, at 5:00 pm, while filling out the Control Room Data Sheets, the reactor operator failed to note that the #2 steam generator low pressure setpoint was incorrectly set.

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

- 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, Revision 2, February 1978.

Regulatory Guide 1.33, Appendix A, recommends procedures for performing maintenance and states 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.

Licensee Procedure 36MT-9RI06, "Withdrawal of ICI Cables," Section 8.4.5, requires the control element assembly (CEA) hoist to be used when withdrawing fixed incore instruments (ICIs) for refueling operations.

Contrary to the above, on February 25, 1992, the licensee failed to implement Procedure 36MT-9RI06, in that fixed ICI #55 was manually withdrawn without using the CEA hoist.

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

- C. 10 CFR 50, Appendix B, Criterion XII, requires that measures be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits.

Contrary to the above, no measures were established to assure that calibration gas used for performance of containment hydrogen monitor surveillance tests, an activity affecting quality, was properly controlled and calibrated. Specifically, on February 11, 1992, the Unit 2 Containment Hydrogen Monitor Channel A surveillance test (Procedure 36ST-9HP03) was performed using a calibration gas that was not procured from a QA approved vendor and no other QA controls were provided to assure the proper calibration of the gas. On February 13, 1992, one containment hydrogen monitor each in Units 1 and 3, were also determined to have had surveillance tests performed with calibration gas that was not properly controlled or calibrated.

This is a Severity Level IV violation (Supplement 1) applicable to Units 1, 2 and 3.



ATTACHMENT 1

**REPLY TO NOTICE OF VIOLATIONS
50-528/92-05-02, 50-528/92-05-01 AND 50-528/92-05-03**

**NRC INSPECTION CONDUCTED JANUARY 26, 1992 -
FEBRUARY 29, 1992**

INSPECTION REPORT NOS. 50-528, 529, 530/92-05



REPLY TO NOTICE OF VIOLATION 50-528/92-05-02

Reason For The Violation

The reason for both examples of the violation was a cognitive personnel error.

During scheduled surveillance testing of the Unit 1, number 1 steam generator low steam generator pressure trip setpoint on February 4, 1992, the RPS/ESFAS channel 'B' low steam generator pressure trips for both the number 1 and number 2 steam generators were placed in bypass, as required by 36ST-9SB02, "PPS Bistable Trip Units Functional Test." During this surveillance, the low steam generator pressure setpoint reset button was depressed, as required, resulting in the channel 'B' low steam generator pressure trip setpoint for both steam generators being reduced to approximately 200 psia below the actual steam generator pressures. The surveillance test subsequently requires resetting of the channel 'B' low steam generator pressure trip setpoint to verify proper operation. The channel 'B' low steam generator pressure trip setpoint for the number 1 steam generator was reset in accordance with the surveillance test procedure.

While checking the channel 'B' low steam generator pressure trip setpoint for the number 2 steam generator, the maintenance I&C technician performing the surveillance test did not select the number 2 steam generator low steam generator pressure setpoint on the select switch. This resulted in the maintenance I&C technician erroneously using the previously verified number 1 steam generator channel 'B' low steam generator pressure trip setpoint to check the number 2 steam generator channel 'B' low steam generator pressure trip setpoint. The RPS/ESFAS channel 'B' low steam generator



pressure trips for both the number 1 and number 2 steam generators were taken out of bypass following completion of the applicable portion of the surveillance test.

Approximately one-half hour after the channel 'B' low steam generator pressure trips were taken out of bypass, a Unit 1 control room reactor operator checked the low steam generator pressure trip setpoints as part of a scheduled setpoint check. The operations procedure for control room data sheets (40DP-9OP05, "Control Room Data Sheet Instructions") requires any abnormal and/or unusual conditions or readings be reported to the Shift Supervisor or Assistant Shift Supervisor. The control room reactor operator did not identify that the RPS/ESFAS channel 'B' low steam generator pressure trip setpoint for the number 2 steam generator was below the minimum allowed Technical Specification value, as required.

Corrective Steps That Have Been Taken And The Results Achieved

Approximately one hour after the control room reactor operator failed to identify the incorrect RPS/ESFAS channel 'B' low steam generator pressure trip setpoint for the Unit 1, number 2 steam generator, the Assistant Shift Supervisor discovered that the setpoint was below the minimum allowed Technical Specification value. The channel 'B' low steam generator pressure trip for the number 2 steam generator was declared inoperable and the Unit 1 maintenance I&C department was notified. The low steam generator pressure trip setpoint was reset to the required value approximately one hour later.



A Condition Report/Disposition Request was initiated to conduct an investigation of this event and subsequently determined the cause to be personnel error.

The involved control room reactor operator and maintenance I&C technician have been disciplined in accordance with the APS Positive Discipline Program.

A control room night order discussing this event was issued in Units 1, 2, and 3 to reinforce the importance of attention to detail in performing routine checks thoroughly.

Briefings have been conducted on this event with Units 1, 2, and 3 maintenance I&C technicians.

As an enhancement, the surveillance test procedure (36ST-9SB02) has been revised to add detailed action steps to direct performers on how to attain and determine the low steam generator pressure trip setpoints for added assurance that the minimum allowed value for the trip setpoint is attained prior to removing the low steam generator pressure trip from bypass.

The investigation results were provided to the NRC in a letter from James M. Levine dated March 5, 1992 (Licensee Event Report 528/92-003-00).

Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions discussed above are considered adequate to avoid further violations and no additional corrective actions are planned.



Date When Full Compliance Will Be Achieved

Full compliance was achieved on February 4, 1992, upon restoring the Unit 1, steam generator number 2 low steam generator pressure trip setpoint to the minimum allowed Technical Specification value.

Additional Information

The inspection report cover letter requests an assessment of the need for independent verification of the reactor trip setpoints adjusted during surveillance testing. During the investigation of this event, APS evaluated the need for independent verification of as-left reactor trip setpoints. Although no previous examples of improper restoration of reactor trip setpoints at the conclusion of surveillance testing were identified, APS concluded that an additional check of as-left reactor trip setpoints would be prudent, if the setpoint was adjusted outside the acceptance criteria during the surveillance test. Surveillance testing meeting this criteria was identified for the low steam generator pressure trip and the low pressurizer pressure trip. Changes to the PPS bistable trip units functional test procedure (36ST-9SB02) have been initiated to require a separate check to verify that the low steam generator pressure trip setpoint and the low pressurizer pressure trip setpoint are within their acceptance criteria prior to removing the trips from bypass. These changes will be implemented by June 30, 1992.

REPLY TO NOTICE OF VIOLATION 50-528/92-05-01

Reason For The Violation

The reason for the violation was an improper procedural step and subsequent implementation of the flexibility allowed by the step.

Prior to February 25, 1992, during Unit 1 refueling activities, sixty incore instruments (ICIs) had been withdrawn in accordance with maintenance procedure 36MT-9RI06, "Withdrawal Of The Incore Instruments For Reactor Refueling Operations," leaving one ICI installed. On February 25, 1992, scaffolding had been erected at the entrance to the east end of the refueling canal. This scaffolding prevented placement of the control element assembly (CEA)/ICI change platform above the ICI holding frame, and consequently the use of the CEA hoist to withdraw the final ICI, as required by 36MT-9RI06, Step 8.4.5. The involved Work Group Supervisor reviewed 36MT-9RI06 for an alternate means to remove the final ICI. Step 7.7 of 36MT-9RI06 states, "This procedure should be considered a guideline, the I&C technician and Work Group Supervisor should have flexibility in the order of work performance and should decide the need for some steps depending upon inspection results, such as cleaning of slip tubes, spacers, etc. ". The Work Group Supervisor interpreted this step as allowing a manual withdrawal of an ICI, in lieu of using the CEA hoist, as required by 36MT-9RI06, Step 8.4.5.

Following the decision to attempt a manual withdrawal of the final ICI, a tailboard meeting was conducted, at which the ICI task shift lead was cautioned on the slow lift requirement and the 500 pound maximum pull requirement of 36MT-9RI06. The radiation



protection department was notified of the planned ICI manual withdrawal.

During the actual ICI withdrawal, a rope was attached to the ICI lift bail and used by a technician on the 140 foot elevation platform to withdraw the ICI. A second technician, in the accompaniment of a radiation protection technician, was located in the refuel cavity to wipe the cable as it was withdrawn. When the withdrawal was first attempted, the force was greater than anticipated, so the technicians stopped the withdrawal attempt to investigate the cause. A piece of duct tape was removed from the ICI cable and the ICI was successfully withdrawn and secured in the ICI holding frame. The duct tape had been left following a preceding, unrelated maintenance activity to replace the ICI seal housing.

Corrective Steps That Have Been Taken And The Results Achieved

A Condition Report/Disposition Request was initiated to investigate this activity and determined the cause discussed above.

The B&W Nuclear Services personnel were briefed on the incident and the need for verbatim procedural compliance was emphasized.

Changes have been made to maintenance procedure 36MT-9RI06, "Withdrawal Of The Incore Instruments For Reactor Refueling Operations," to delete the phrase, "this procedure should be considered a guideline," from Step 7.7 (Step renumbered as 2.1.2.7) and to revise Step 8.4.5 (Step renumbered as 4.4.12) to allow lifting ICIs manually.



Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions discussed above are considered adequate to avoid further violations and no additional corrective actions are planned.

Date When Full Compliance Will Be Achieved

Full compliance was achieved on February 25, 1992, upon completion of the manual withdrawal of the final Unit 1 ICI.



REPLY TO NOTICE OF VIOLATION 50-528/92-05-03

Reason For The Violation

The reason for the violation was inadequate interim corrective measures upon identification of a quality deficiency.

A quality deficiency report was initiated in April, 1991, to document that surveillance test procedure 36ST-9HP03, "Containment Hydrogen Monitoring System Calibration Test, Channel A," was inadequate in that the test gas used was not traceable to a calibration standard. An action plan was developed to address this deficiency which included actions to establish technical specification and quality requirements for the test gas and locate an acceptable vendor. The test gas used in this surveillance was being purchased on a non-quality related purchase order used to purchase miscellaneous gases, without identifying specific plant applications for each gas.

Prior to an acceptable vendor being approved, interim measures were taken to ensure the quality of the test gas used in the performance of 36ST-9HP03. A prospective vendor (Air Products and Chemical) was selected based on their use by another Region V utility as a supplier of safety-related calibration gases. The prospective vendor's quality assurance manual was reviewed and APS concluded that the vendor had adequate processes for ensuring that the required calibration standards are accurately represented in their Certificates of Analysis (COA). APS also verified that the test gas being supplied by a local vendor was, in fact, being filled by Air Products and Chemical. Surveillance test procedures, 36ST-9HP03 and 36ST-9HP04 (Containment Hydrogen Monitoring



System Calibration Test, Channel B) were revised to require the serial number on the test gas bottle to be recorded during performance of the hydrogen monitoring system surveillance test to provide traceability of the gas bottle. Following identification of the critical design attributes that are essential to the dedication process of test gas, APS performed a commercial grade survey of Air Products and Chemical and identified some minor programmatic issues, none of which would question the accuracy of the hydrogen concentration. A randomly selected bottle of test gas filled by this vendor which had been supplied to APS was verified to contain the correct hydrogen concentration during this survey.

On January 9, 1992, due to an urgent need for hydrogen test gas, the system engineer and the Unit 1 I&C maintenance department authorized a purchase of hydrogen test gas filled by a local vendor using the existing non-quality related purchase order. No test gas was in stock at APS and approximately two weeks would have been necessary to obtain the test gas from Air Products and Chemical. Test gas was obtained from the local vendor and used in Unit 1. Although use of hydrogen test gas filled by the local vendor in a hydrogen monitoring system surveillance test was inappropriate, involved personnel did comply with interim corrective measures. During the week of February 10, 1992, an NRC inspector was observing the hydrogen monitoring system surveillance test on a Unit 2 hydrogen analyzer and noted that the test gas being used was not traceable to the vendor being evaluated for acceptance by APS. Based on this observation, all three units were checked for hydrogen test gas bottles which were not traceable to the vendor being evaluated for acceptance. Three additional test gas bottles were found

which were not traceable to the vendor being evaluated for acceptance. These bottles had been purchased under the non-quality related purchase order for miscellaneous gases and filled by a local vendor at various times.

Corrective Steps That Have Been Taken and Results Achieved

Hydrogen test gas bottles which were filled by the local vendor were removed from service, quarantined, and subsequently returned to the vendor.

Hydrogen monitoring system surveillance tests were performed on the hydrogen analyzers which had been tested using test gas bottles filled by the local vendor using test gas bottles filled by Air Products and Chemical. The tests required no adjustments to hydrogen analyzers, thus validating the tests performed using test gas bottles filled by the local vendor.

Air Products and Chemical has been accepted by APS as capable of providing test gases of the required quality and placed on the Commercial Grade Approved Vendor's List.

A quality related purchase order has been issued to Air Products and Chemical to establish a new stock level of test gases.

The procurement/warehouse tracking (class and item) numbers for test gas have been input into the Materials Management Information System and Station Information Management System for inclusion in corrective maintenance and surveillance test work order packages associated with hydrogen analyzers.



Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions discussed above are considered adequate to avoid further violations and no additional corrective actions are planned.

Date When Full Compliance Will Be Achieved

Full compliance was achieved on February 14, 1992, upon replacement of the identified test gas bottles which had been filled by the local vendor with test gas bottles filled by Air Products and Chemical.

