UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V

1450 MARIA LANE
WALNUT CREEK, CALIFORNIA 94596-5368

FEB 17 1994

Docket Nos. 50-528
50-529
50-530

Arizona Public Service Company
P.O. Box 53999, Station 9082
Phoenix, Arizona 85072-3999

Attention: Mr. W. F. Conway
Executive Vice President, Nuclear

Gentlemen:

Thank you for your letter of February 1, 1994, in response to our Notice of Violation and Inspection Report Nos. 50-528/93-48, 50-529/93-48, 50-530/93-48, dated January 5, 1994, informing us of the steps you have taken to correct the items which we brought to your attention. Your corrective actions will be verified during a future inspection.

Your cooperation with us is appreciated.

Sincerely,

C. A. VanDenburgh
Acting Deputy Director
Division of Reactor Safety and Projects

cc:
Mr. Steve Olea, Arizona Corporation Commission
James A. Beoletto, Esq., Southern California Edison Company
Mr. Charles B. Brinkman, Manager, Washington Nuclear Operations
Mr. Aubrey Godwin, Director, Arizona Radiation Regulatory Agency
Chairman, Maricopa County Board of Supervisors
Jack R. Newman, Esq., Newman & Holtzinger, P.C.
Mr. Curtis Hoskins, Executive Vice President and Chief Operating Officer, Palo Verde Services
Roy P. Lessey, Jr., Esq., Akin, Gump, Strauss, Hauer and Feld
Bradley W. Jones, Esq., Akin, Gump, Strauss, Hauer and Feld
Mr. Ronald J. Stevens, Director, Nuclear Regulatory Affairs, APS

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Mr. Ronald J. Stevens, Director, Nuclear Regulatory Affairs, APS

bcc w/enclosure:
Docket File
Resident Inspector
Project Inspector
G. Cook
K. Perkins
D. Clevenger

bcc w/o enclosure:
M. Smith

Region V/ann

HWong
2/14/94

CVanDenburgh
2/17/94

REQUEST COPY]	REQUEST COPY]	SEND TO DCS]	SEND TO PDR]
YES / NO]	YES / NO]	YES / NO]	YES / NO]

BJSDean
for
*KJohnston per telecon
2/16/94

Arizona Public Service Company
P.O. BOX 53999 • PHOENIX, ARIZONA 85072-3999

WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

102-02810-WFC/BAG/PJC
February 1, 1994

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-37
Washington, D. C. 20555

Reference: Letter dated January 5, 1994, from C. A. VanDenburgh, Acting Deputy Director, Division of Reactor Safety and Projects, 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 50-528/93-48-05
and 50-529/93-48-02
File: 94-070-026

Arizona Public Service Company (APS) has reviewed NRC Inspection Report 50-528/529/530/93-48 and the Notice of Violations dated January 5, 1994. Enclosure 1 to this letter is a restatement of the Notice of Violations. APS' responses are provided in Enclosure 2.

APS shares the NRC's concern with regard to the implementation of operational controls. APS has been working to improve the control of plant evolutions, and progress is being made as evidenced by the recent, mid-loop operation evolutions in Units 2 and 3. In addition, APS has targeted overall human performance as one of several strategic areas that will be the focus of intense improvement initiatives. Other strategic areas being addressed include Culture and Training. All of these areas are closely linked, and actions developed for the Culture, Human Performance, and Training Strategies will directly contribute to enhancing operator performance. Proposed actions include assessments of supervisory/managerial skills; implementation of cultural expectations through the Performance Enhancement Program; simplification of processes and procedures; implementation of a performance analysis and trend program which would include a requirement for functional areas to employ self-assessment programs; reassessment of Training Program ownership; Training to customer and customer to Training job rotations, and inclusion of High Intensity Training in the Licensed Operator Requalification Program. Optimal operator performance is a major goal of APS' strategic planning.

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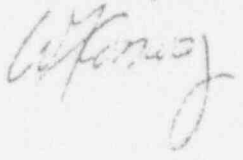
Both the cited and non-cited violations discussed in the referenced letter and the Inspection Report have been addressed through the APS Positive Discipline Program.

Should you have any questions, please call Burton A. Grabo at (602) 393-6492.

Sincerely,



WFC/BAG/PJC

Enclosures:

1. Restatement of Notice of Violations
2. Reply to Notice of Violations

cc: K. E. Perkins, Jr.
K. E. Johnston
B. E. Holian

ENCLOSURE 1

RESTATEMENT OF NOTICE OF VIOLATIONS

50-528/93-48-05 AND 50-529/93-48-02

NRC INSPECTION CONDUCTED

NOVEMBER 2 THROUGH DECEMBER 6, 1993

Restatement of Notice of Violations 50-528/93-48-05 and 50-529/93-48-02

During an NRC inspection conducted on November 2 through December 6, 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 2, Appendix C, the violations are listed below:

A. Unit 1 Technical Specification 6.8.1 requires, 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 1988.

Regulatory Guide 1.33, Appendix A, requires, in part, that procedures be prepared for operation of safety-related systems.

Normal operating procedure 41OP-1ZZ16, "RCS Drain Operations," Step 5.3.7.5(3), requires operators to monitor reactor coolant system level while draining.

Contrary to the above, on November 3, 1993, operators in Unit 1 failed to monitor reactor coolant system level while draining for approximately eight minutes.

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

B. Unit 2 Technical Specification 6.8.1 requires, 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 1988.

Regulatory Guide 1.33, Appendix A, requires, in part, that procedures be prepared for operation of safety-related systems.

Normal operating procedure 42OP-2CH01, "CVCS Normal Operations," Step 7.3.4, requires the controller for valve CHN-210X to be returned to automatic following reactor coolant system dilution evolutions.

Contrary to the above, on November 23, 1993, in Unit 2, the controller for valve CHN-210X was not returned to automatic following a dilution evolution.

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

ENCLOSURE 2

REPLY TO NOTICE OF VIOLATIONS

50-528/93-48-05 AND 50-529/93-48-02

NRC INSPECTION CONDUCTED

NOVEMBER 2 THROUGH DECEMBER 6, 1993

REPLY TO VIOLATION A (50-528/93-48-05)

Reason For The Violation

As discussed at the November 15, 1993, APS/NRC Status Meeting, APS management initiated an in-depth investigation in response to the Unit 1 inadvertent entry into reduced inventory during a partial Reactor Coolant System (RCS) draindown. The RCS was partially drained and being maintained at a level of 112 to 113 feet to support steam generator tube plugging activities while ensuring prevention of possible overpressurization of nozzle dams. Because of occasional (depending upon system alignment) safety injection boundary valve leakage from the refueling water tank, it was necessary for Unit 1 operators to reduce RCS level in accordance with procedure 41OP-1ZZ16 from three to six times per shift to maintain the required RCS level band.

On November 3, 1993, during the midnight shift, the operating crew was reducing RCS level and entered reduced inventory when the Refueling Water Level Indication System indicated RCS level was being inadvertently lowered below 111 feet. The indicated level had reached a minimum of about 108 feet, 5 inches when the operating crew stopped level reduction and initiated makeup to restore RCS level to 112 feet. The indicated level was below 111 feet for approximately six minutes.

The APS investigation revealed that at the time of the level reduction evolution, the Shift Supervisor was functioning in the capacity of Control Room Supervisor (CRS). The activities being performed were not excessive in number or significance, nor were there questions as to order of importance of those activities. There was no increased urgency to complete the actions which subsequently distracted the Primary Operator. During the initial performance of RCS level reduction on the day preceding the event, the CRS had conducted a detailed walk-through of the task with the Primary Operator and discussed the initiation of makeup flow as a contingency and the effects of connecting the reactor vessel head vent system on the RCS level indicator response. The Primary Operator had then successfully completed the task approximately nine times over two operating shifts.

At approximately 0120 hours, the Primary Operator observed RCS level approaching the high end of the band being maintained. He announced to the control room at large that he was initiating RCS level reduction and began the activity in accordance with procedure 41OP-1ZZ16. The third Reactor Operator acknowledged the announcement; then continued with other tasks. Neither the CRS nor the Secondary Operator acknowledged the Primary Operator's announcement, nor did the Primary Operator assure that he received an acknowledgement from the CRS. The Primary Operator then initiated draindown of the RCS level and immediately verified that the expected RCS level decrease was in progress. The Primary Operator began monitoring RCS level from a monitor located at the control board, but became distracted by other activities and left the monitor. As the Primary Operator was returning to the monitor, the

Secondary Operator, who had been engaged in a strategy discussion with the acting CRS, observed from the monitor that the RCS was decreasing below the desired level. The Secondary Operator immediately alerted the Primary Operator and the CRS of the need to initiate makeup flow to the RCS. The Primary Operator began restoration of RCS level, and at 0131 hours the indicated RCS level returned to > 111 feet exiting the reduced inventory status. RCS level was then stabilized at 112 feet, 4 inches.

The primary cause of the event was the operating crew's diminished sensitivity to the safety significance of the RCS reduction evolution due to the task's lack of complexity and the frequency with which it was being performed. Control room supervision did not establish and maintain the expected communication standards nor exercise adequate control of a safety significant evolution.

APS' Nuclear Safety Assessment of the event determined that the actual RCS level reached a minimum of approximately 111 feet, 8 inches which is above reduced inventory conditions. During RCS level draindowns, indicated level typically reads conservatively low due to the restriction of containment air flow into the reactor vessel through the reactor vessel head vent orifice. The Nuclear Safety Assessment results also confirmed that during the event the plant was not in a condition in which the core would have been uncovered or radioactive material released through the open containment hatch.

Corrective Steps That Have Been Taken And Results Achieved

A night order was issued detailing specific interim controls that were to be in place when RCS level was to be reduced. The established controls included (1) designation of an operator to have responsibility to control and monitor the evolution; (2) a requirement to obtain permission from the CRS to perform RCS draindown, and (3) a requirement for the CRS to directly supervise the evolution. The wide-range indicators for the Refueling Water Level Indication System were assigned to addressable trend recorders located near the board containing the RCS level controls.

The operating crew involved in the event was removed from shift to participate in the investigation. The Unit 1 control room staff (operating crews) was briefed to apprise them of the event and the initial corrective actions. A Category 2 incident investigation was conducted.

Corrective Steps That Will Be Taken To Avoid Further Violations

The operating crew involved in the event completed specialized High Intensity Training (HIT) to improve teamwork and reinforce the expected communication practices. Further, Unit 1 Operations management will review the HIT evaluations of the Unit 1 operating crews and assess the crews' performance on-shift to verify that they meet

management's expectations for communication standards and teamwork. Completion of the assessment is expected by June 24, 1994.

During mid-December 1993, the Unit 1, 2, and 3 Plant Managers provided a detailed review of the event to their respective operations departments/management with emphasis on the need for control of activities affecting key plant parameters and safety functions.

The performance history of the shift supervision involved in the event was evaluated. Appropriate discipline was implemented for the individuals involved in the event in accordance with the APS Positive Discipline Program.

As an enhancement to further sensitize operators to the significance of specific RCS partial drain activities, the Nuclear Training Department has revised the mid-loop classroom instruction provided to them to discuss vulnerability to error and the need to minimize distractions in the control room during evolutions affecting RCS level.

Date When Full Compliance Will Be Achieved

Full compliance was achieved at 0131 hours when the Primary Operator restored RCS level to greater than 111 feet and exited the reduced inventory status.

that the operation of this controller is not a generic problem among the operating crews. Unit 2 Operations management briefed each crew on this incident and reinforced management's expectations for procedural adherence. Appropriate positive discipline in accordance with the APS program was administered to the individual who was involved in the event.

Corrective Steps That Will Be Taken To Avoid Further Violations

The corrective actions described above address the individual violation; however, as discussed in the cover letter for this response, PVNGS is in the process of developing and implementing broad scope improvements in several strategic areas. Many of the proposed improvements target human performance issues including those associated with Operations personnel.

Date When Full Compliance Will Be Achieved

Full Compliance was achieved when the valve controller was returned to automatic by the oncoming operating crew.