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SUBJECT: Responds to NRC 890901 ltr re violation & forwards payment in amount of $250,000 for proposed imposition of civil penalty re Insp Repts 50-528/89-13,50-529/89-13 & 50-530/89-13.

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WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

102-01446-WFC
October 2, 1989

Director, Office of Enforcement
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Reference: (a) Notice of Violation and Proposed Imposition of Civil Penalty, Docket Nos. 50-528, 50-529, and 50-530, License Nos. NPF-41, NPF-51, and NPF-74, dated September 1, 1989

(b) Letter from John B. Martin, Regional Administrator to Arizona Nuclear Power Project, Attn: W. F. Conway, Executive Vice President, dated September 1, 1989 transmitting Reference (a)

Dear Sir:

Subject: Reply to Notice of Violation and Proposed Imposition of Civil Penalty - $250,000 (Inspection Report Nos. 50-528/89-13, 50-529/89-13, and 50-530/89-13
File: 89-070-026

As directed by references (a) and (b), Arizona Public Service Company (APS), on behalf of the Arizona Nuclear Power Project, submits Attachments A through F, as its Reply to the Notice of Violation, together with its check payable to the Treasurer of the United States in the amount of $250,000, the amount of the civil penalty proposed in reference (a).

We recognize that the cited violations are examples of programmatic concerns which the NRC has previously brought to the attention of APS management. The measures developed by APS to address and resolve these concerns have been the subject of discussions with NRC management at several management meetings as well as reports and responses to inspection reports and notices of violations. Where appropriate, they are referenced in the response to the individual violations. Of particular relevance are:

- Improvements in the Quality Assurance Program and the general oversight committees (ISEG, NSG, etc.) which were discussed at NRC/APS Management Meetings on December 1, 1988 and June 5, 1989.

Cert No P990823160 w/check $250,000 # 1280
IE1A 1/1

- Improvements in emergency and essential lighting were described in the Essential and Emergency Lighting System report which was transmitted to you by my letter dated June 3, 1989.

- Improvements in the area of training and our current efforts to make further training improvements were discussed at the NRC/APS Management Meeting on August 18, 1989, and will be the subject of additional reports in the near future.

These are a few examples of the efforts APS has made and continues to make to improve overall performance at Palo Verde. Although it is too early to determine the effectiveness of these programs, APS is confident that they will establish the kind of working atmosphere at Palo Verde that is a prerequisite to the achievement of our goal of excellence of performance. Demonstrable results will require both a reasonable period of time to achieve as well as the rigorous, unrelenting dedication of management.

If you have any questions or comments relative to the Reply to the Notice of Violation, this letter or any other matters, I would appreciate the opportunity to respond to them.

Very truly yours,

WFC/kj

cc: J. B. Martin [all w/o enclosure (a)]
T. J. Polich
T. L. Chan
M. J. Davis
J. R. Newman
A. C. Gehr

Enclosures: (a) Check No. 50002804 payable to the Treasurer of the United States
(b) Attachments A through F: Reply to Notice of Violation

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, William F. Conway, represent that I am Executive Vice President, Nuclear, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.

William F. Conway

Sworn to before me this 2 day of OCTOBER, 1989.

Notary Public

My Commission Expires:

My Commission Expires Jan. 23, 1991

ATTACHMENT A

Arizona Nuclear Power Project
Phoenix, Arizona

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

REPLY TO A NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

DATED SEPTEMBER 1, 1989

REPLY TO VIOLATION I.A

SUBMITTED BY ARIZONA PUBLIC SERVICE COMPANY

ATTACHMENT A

REPLY TO A NOTICE OF VIOLATION

VIOLATION I.A.

I. Inadequate Preventive and Corrective Actions

A. 10 CFR Part 50, Appendix B, Criterion XVI, provides that "measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected . . . [For] significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."

Contrary to the above, the licensee failed to comply with 10 CFR Part 50, Appendix B, Criterion XVI, as evidenced by the following examples:

1. After experiencing significant problems with Atmospheric Dump Valve (ADV) operation and control during 1985, the licensee's evaluation identified a number of corrective actions to increase ADV reliability, but as of March 3, 1989, failed to implement those corrective actions.

2. The licensee became aware of a number of recommended corrective actions (different from those referenced in example A.1, above) for similar operation and control problems with the Steam Bypass Control System (SBCS) Valves, through letters from the licensee's Architect Engineer and NSSS vendor (Bechtel letter B/ANPP-E-139615 dated August 30, 1985 and Combustion Engineering letter V-CE-32738 dated August 12, 1985). The SBCS valves are similar in design to the ADVs except for minor internal differences. As of March 3, 1989, the licensee failed to properly evaluate those recommended corrective actions for applicability to the ADV deficiencies.

3. Site Modification 3-SM-IA-003, dated October 31, 1987, required the installation of a 3 micron permanent moisture filter on the instrument air line to the ADVs and the main steam isolation valves (MSIVs) for corrective action after significant moisture induced damage to the MSIV four-way valves and air motors was discovered. As of March 3, 1989 the licensee failed to assure that this condition adverse to quality was promptly corrected by the installation of the 3 micron permanent moisture filter.

4. The licensee identified a condition adverse to quality following a July 6, 1988 Unit 1 reactor trip whereby ADV 179

did not properly respond due to foreign matter (water, oil, and dust) in the ADV actuator air passage. The licensee failed to ensure that this condition adverse to quality was promptly corrected in that as of March 3, 1989 the Unit 3 ADV positioners had not been inspected and cleaned.

REPLY TO VIOLATIONS I.A.1 THROUGH I.A.4

I. ADMISSION OR DENIAL OF THE ALLEGED VIOLATIONS I.A.1 THROUGH I.A.4

APS admits the violations.

II. REASON FOR VIOLATIONS

1. Violation I.A.1

A review of the ADV history (see Appendix F to the report entitled "Atmospheric Dump Valve Analysis," filed with NRC in May, 1989) revealed that of twelve corrective measures identified in 1985 eleven were dispositioned appropriately.

The corrective action identified and recommended in 1985 which was not implemented as of March 3, 1989, was the suggestion made by Control Components, Inc. (CCI) on June 10, 1985, to weld the disc stack in order to smooth out the Cv transition. The reasons for this omission are as follows.

On September 9, 1985, after completion of the Unit 2 hot functional tests in July, 1985, when it appeared from testing that the major ADV problems had been corrected, ANPP requested Bechtel to provide final recommendations to improve the operability of the ADVs. One of the final recommendations made by Bechtel on September 23, 1985,

was to implement the CCI suggestion to smooth out the Cv transition during a "convenient outage." [ADV History, page 16]

Upon receipt of this final recommendation, a Plant Change Request (PCR) was prepared on September 30, 1985. On October 16, 1985, the PCR was cancelled by a system engineer on the belief that the disc stack modification was not required to ensure proper operation of the ADVs. The PCR process did not require management review and concurrence for cancellation of PCRs.

The system engineer decided to cancel the PCR because of a "freeze" imposed by management at that time on design changes to be implemented prior to initial startup of Unit 1. Management expectations were that the only design changes to be implemented during the freeze were those required for safety, operability, or compliance with regulatory requirements. Other desirable changes were to be deferred until after initial startup. Bechtel had recommended the modification be loosely scheduled for a "convenient outage," hence the PCR should have been retained for later implementation for Unit 1, and possibly for implementation on Units 2 and 3 prior to the initial startup of such units. However, when the design change freeze ended, the PCR was not reconsidered because of the cancellation.

The reasons for Violation I.A.1 appear to be twofold. First, a failure by management to adequately communicate its expectations on the handling of plant modifications not required for the initial startup of Unit 1. Second, the PCR program did not require management review of the cancellation of PCRs.

2. Violation I.A.2

APS did not have, in place, programs or procedures for requiring conduct of evaluations of similar components at the time of the evaluation. In the specific case discussed within the violation, the valve vendor, Control Components, Inc. (CCI), informed Palo Verde personnel that CCI had not seen as many problems in valves with the smaller 10" plugs (ADVs) as it had seen in valves with the larger 12" plugs (SBCVs). Further, CCI had concluded that the ADV problems were most likely a design problem whereas the SBCV problems were attributable to system problems at Palo Verde. This advice contributed to the failure to evaluate recommendations for SBCVs for applicability to ADVs.

The details of the recommendations and actions taken by APS are discussed in the Atmospheric Dump Valve Analysis.

3. Violation I.A.3

The decision to defer installation of Site Modification 3-SM-IA-003, dated October 31, 1987, until the Unit 3 first refueling outage, scheduled for March 8, 1989, rather than at an earlier date, was based on a determination that the pitting discovered on the Main Steam Isolation Valve (MSIV) four-way air valves and air motors would not affect the ability of the valves to perform their safety-related functions.

4. Violation I.A.4

The inspection and cleaning of the Unit 3 ADV positioners was scheduled to be completed during the Unit 3 first refueling outage. This scheduling was based on the fact that Unit 1 ADV 179 was the first and only instance at PVNGS of erratic operation of a valve of this type due to foreign material. This valve had been in operation over 3 years at the time of the Unit 1 event in July, 1988. At that time Unit 3 had only been in operation for seven months and it was considered appropriate to defer the inspection and cleaning of the Unit 3 ADVs until the first refueling outage. Inspection of the Unit 2 ADV positioners in March, 1989 showed no dirt or contamination which would affect operation of the ADVs.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

1. APS modified the design of the PVNGS ADVs as a result of the engineering analysis conducted after the Unit 3 event of March 3, 1989. The ADV modifications were also evaluated for applicability to SBCS valves. A detailed description of the modifications are contained within the Atmospheric Dump Valve Analysis.

2. Although not intended as a corrective action for this violation, the Plant Change Request (PCR) program was revised July 18, 1986, to require management review of the disposition of PCRs.

3. APS management is currently evaluating methods which could be implemented programmatically to ensure component problems are

evaluated for applicability to known similar components. This evaluation is scheduled to be completed by November 30, 1989. Until such time as a program is implemented, APS engineering management has been conducting one-on-one briefings with system engineers to ensure that management expectations regarding the role of system engineers are fully understood. This process was discussed with the NRC during an NRC/APS management meeting on September 12, 1989.

4. The 3 micron moisture filter was installed in Unit 3 on June 6, 1989. The 3 micron moisture filters were installed in Units 1 and 2 prior to the Unit 3 event.

5. Although, in the view of APS, the actions referenced in violation I.A.3 and I.A.4 were scheduled with appropriate consideration of relevant factors, APS has acted to ensure timely implementation of corrective actions. On July 31, 1989, the APS Executive Vice President, Nuclear, issued a memorandum to all PVNGS Directors and Managers establishing specified goals for the timely resolution and response to identified problems. The memorandum also established responsibilities and accountabilities for tracking and reporting of the status of problem identification and work initiation documents. The purpose of these goals is to ensure problems are not allowed to remain unresolved for extended periods of time without executive management involvement. The timeliness of corrective actions will be tracked against the goals stated in the memorandum and periodic reports regarding timeliness of corrective actions will be provided to executive management.

IV. CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. APS will review a sample of PCRs cancelled by system engineers during the design freeze prior to July 18, 1986, to determine if there is a generic concern regarding improperly cancelled PCRs during that time. This review is scheduled to be completed by November 15, 1989.

2. The corrective actions taken for the other violations, as discussed above, are sufficient to avoid further violations.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

In Unit 2 the successful testing of its ADVs, after recent valve modifications, was completed by June 11, 1989. Four (4) of the eight (8) Unit 2 SBCS valves were modified prior to its startup in June, 1989. Modification of the remaining four (4) valves will be completed during the next refueling outage.

Inspection and cleaning of the ADV positioners in Unit 3 will be completed prior to startup from its current refueling outage.

ATTACHMENT B

Arizona Nuclear Power Project
Phoenix, Arizona

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

REPLY TO A NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

DATED SEPTEMBER 1, 1989

REPLY TO VIOLATION I.B

SUBMITTED BY ARIZONA PUBLIC SERVICE COMPANY

ATTACHMENT B

REPLY TO A NOTICE OF VIOLATION

VIOLATION I.B.

I.B. Technical Specification 6.8.1 states, in part, "Written procedures shall be established, implemented, and maintained covering . . . the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, Feburary 1978." Section 2 of Regulatory Guide 1.33 requires general plant operating procedures for recovery from reactor trips. Procedure 79AC-9ZZ08, Revision 4, dated December 29, 1987, "Post Trip Review Reporting," requires identification and correction of the causes for reactor trips.

Contrary to the above, as of March 3, 1989, the licensee failed to correct Concern 17 identified in Unit 3 post trip review 88-03-003, first identified on July 31, 1988, concerning a permissive timer problem in the steam bypass control system; consequently, this uncorrected problem contributed to the malfunctioning of the steam bypass control system during the March 3rd event.

I. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION I.B

APS admits the violation.

II. REASON FOR VIOLATION I.B

As a point of clarification, the event cited within the violation was a main turbine trip not a reactor trip. Hence, procedure 79AC-9ZZ08, "Post Trip Review Reporting," was not the procedure used for the evaluation of this event. For a main turbine trip, the Special Plant Event Evaluation Report (SPEER) was utilized. Nevertheless, the SPEER process required that corrective actions resulting from an event be identified and corrected. Contrary to this procedure, Concern 17 was not corrected.

A review of the Special Plant Event Evaluation Report (SPEER) 88-03-003 revealed that although the SBCS problem was recognized and assigned a concern number, the action assignments for Concern 17 and accompanying corrective action were inadvertently omitted from the final report. Therefore, this concern was not entered into a tracking system to ensure completion and was not addressed. This omission was not recognized during the review and approval cycle for the report.

The cause of not addressing Concern 17 was determined to be failure of the report preparer and reviewers to identify the omission of the

corrective actions from the report.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

In Unit 2, the Permissive Timer was successfully tested on April 11, 1989. The Permissive Timer in Unit 3 was successfully tested on May 15, 1989, after replacement of the timer card. The Unit 1 Permissive Timer will be tested and the card replaced, if necessary, during its current refueling outage.

To ensure that action assignments were properly made for concerns or issues resulting from incident investigations, APS is currently performing a review of previous SPEERs and Post Trip Review Reports (PTRRs). To date, no other omissions of concerns have been discovered. APS's preliminary conclusion is that this omission is an isolated case based on approximately 33% (42 of 126) of the reports reviewed.

Although not a specific corrective action in response to this violation, APS has combined the various PVNGS event investigating mechanisms (Post Trip Review, SPEER, etc.) into a single Incident Investigation Program. The new Incident Investigation Program (IIP), as presented to the NRC on December 1, 1988, during an NRC/APS management meeting, was implemented on March 1, 1989. The new program specifically addresses lessons learned from the previous programs. Examples of features in the new program are:

1. assignment of specific responsibility for resolution of each concern identified in the investigation;

2. tracking of concerns to completion;

3. trending of recurring causes of plant problems; and

4. formal approaches (e.g. MORT) to event investigations.

The Incident Investigation Program has been subjected to continuing evaluation and appropriate changes have been made to increase its effectiveness. These changes were described to the NRC in letters dated August 28 and September 8, 1989.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The responsibility for tracking corrective actions resulting from incident investigations will be transferred to the Quality Assurance (QA) organization to further increase the attention to this effort. Details of this action were provided in a letter to the NRC on September 8, 1989.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The Permissive Timer in Unit 2 was successfully tested April 11, 1989. The Unit 3 Permissive Timer was successfully tested on May 15, 1989 after replacement of the timer card. The Unit 1 Permissive Timer will be tested and the card replaced, if necessary, during its current refueling outage. The new PVNGS Incident Investigation Program was implemented March 1, 1989.

ATTACHMENT C

Arizona Nuclear Power Project
Phoenix, Arizona

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

REPLY TO A NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

DATED SEPTEMBER 1, 1989

REPLY TO VIOLATION I.C

SUBMITTED BY ARIZONA PUBLIC SERVICE COMPANY

ATTACHMENT C

REPLY TO A NOTICE OF VIOLATION

VIOLATION I.C.

I.C Technical Specification 6.8.1 states, in part, "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." Section 9 of Regulatory Guide 1.33 requires that maintenance that can affect the performance of safety-related equipment be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Control Components International's ADV Vendor Manual, Operation and Maintenance Instructions, specifies maintenance activities and schedules to assure valve operability.

Contrary to the above, as of March 3, 1989, for Units 1, 2 and 3, the licensee neither issued nor implemented written procedures or schedules for vendor-recommended maintenance for the ADVs, the ADV manual operator, and the ADV valve positioners.

ATTACHMENT C (CONTINUED)

REPLY TO VIOLATION I.C

I. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION I.C

APS admits the violation.

II. REASON FOR VIOLATION I.C

The reason for the violation is attributed to the lack of effective administrative control to integrate vendor recommendations into preventive maintenance activities.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

For the specific vendor-recommended maintenance identified in the violation the following procedures have been developed:

1. Quarterly stroking (100%) and bonnet pressure checks of ADVs.
2. Nitrogen supply pressure checks during stroking.
3. Calibration and testing of ADV nitrogen regulators.
4. Calibration of ADV position loop.

APS has also reviewed its preventive maintenance tasks to ensure incorporation of vendor recommendations and to incorporate lessons learned from recent plant events. The Nuclear Engineering Department performed a review of vendor technical manuals for equipment in the following systems:

- Steam bypass control system
- Atmospheric dump valves
- Essential and emergency lighting
- Compressed gas system
- Electrical components that affect fast bus transfer and maintain reactor coolant pump power

Vendor requirements and guidelines were then reviewed by the Plant Standards and Controls Department against preventive maintenance work instructions. Over 1500 work instructions per unit were reviewed. As a result of the validation effort, 13 preventive maintenance tasks were created and 45 were revised. This indicated that the preventive maintenance program contained the vast majority of required tasks.

Additional changes to the Preventive Maintenance Program are described in the response to Violation III.C.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

To address the overall PM program, APS established a PM Project Task Force under the direction of the Plant Standards Department. The Task Force has performed a comprehensive evaluation of the PM program. Details of this evaluation were presented to the NRC during a September 12, 1989, NRC/APS management meeting. Recommended improvements and an implementation schedule are under active consideration.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved upon completion of the development of the procedures described above for the ADVs.

ATTACHMENT D

Arizona Nuclear Power Project
Phoenix, Arizona

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

REPLY TO A NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

DATED SEPTEMBER 1, 1989

REPLY TO VIOLATION II.A

SUBMITTED BY ARIZONA PUBLIC SERVICE COMPANY

ATTACHMENT D

REPLY TO A NOTICE OF VIOLATION

II. Operator and Training Issues

A. The Palo Verde Unit 3 Technical Specifications, Section 6.4, requires that a training program shall be established and maintained which meets or exceeds the requirements and recommendations of Section 5 of ANS 3.1-1978 and Appendix A of 10 CFR Part 55.

ANS 3.1-1978, Section 5.3, requires, in part, the establishment of a training progam for non-licensed operators to properly prepare them for assignments.

1. Contrary to the above, on March 3, 1989, a non-licensed operator was directed to perform manipulations at the Remote Shutdown Panel. The manipulation involved an attempt to open atmospheric dump valve SG-HV-178, a task for which the opreator had not been trained.

2. Contrary to the above, as of March 3, 1989, non-licensed operators had not received adequate training to operate ADVs as evidenced by the problems encountered when attempting to manually operate the ADVs to establish decay heat removal after a loss of offsite power, even though the Emergency Operating Procedures required operation of the ADVs.

Part 1. REPLY TO VIOLATION II.A.1

1. Contrary to the above, on March 3, 1989, a non-licensed operator was directed to perform manipulations at the Remote Shutdown Panel. The manipulation involved an attempt to open atmospheric dump valve SG-HV-178, a task for which the operator had not been trained.

I. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION II.A.1

APS admits the violation

II. REASON FOR VIOLATION II.A.1

The reason for the violation is that the guidance provided for the conduct of shift operations (Procedure 40AC-90P02) did not specify that Auxiliary Operators (AOs) who are not in a training status are not to manipulate any controls at the Remote Shutdown Panel (RSP).

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

1. Promptly after the Unit 3 March 3, 1989 event, the PVNGS Plant Director issued a memorandum to all Operations personnel which stated that AOs are not to manipulate devices at the RSP unless they are in a training status and under the direct supervision of a licensed operator.

2. Procedure 40AC-90P02, "Conduct of Shift Operations" was changed on

June 6, 1989, to incorporate the instructions given in the memorandum and shift licensed personnel have been trained on the modified procedure.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The corrective steps that have been taken are sufficient to avoid further violations.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With respect to all units, full compliance was achieved by the issuance of the Plant Site Director's memorandum and the subsequent revision to Procedure 40AC-90P02.

Part 2. REPLY TO VIOLATION II.A.2

2. Contrary to the above, as of March 3, 1989, non-licensed operators had not received adequate training to operate ADVs as evidenced by the problems encountered when attempting to manually operate the ADVs to establish decay heat removal after a loss of offsite power, even though the Emergency Operating Procedures required operation of ADVs.

I. ADMISSION OR DENIAL OF ALLEGED VIOLATION II.A.2

APS admits the violation.

II. REASON FOR VIOLATION II.A.2

After the Unit 3 March 3, 1989 event, training documentation was examined to determine the training that was given to the auxiliary operators (AOs) who were on shift during the event. Although it was found that these AOs had received on-the-job training (OJT) on the Main Steam System during initial qualification and training, the training program did not provide for continuing training of AOs or reactor operators (ROs) on infrequently performed tasks, such as manual operation of the ADVs.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

Training department personnel, with the assistance of Operations department personnel, examined 1032 tasks in the documented training materials assigned to licensed ROs.

The purpose of the examination was to identify those tasks important to

plant operation that are not frequently performed by ROs. 165 such tasks were identified.

The 165 tasks were examined more closely to determine if immediate review training was necessary. The determination was based on consideration of the adequacy of past training, the quality of procedural guidance, and the time available for the operator to examine the appropriate procedure document prior to task performance.

Three tasks were identified as needing immediate retraining. They were: 1) operation of ADVs from the control room and the remote shutdown panel; 2) resetting a tripped essential auxiliary feedwater pump; and 3) initiation of ESF functions from auxiliary relay panels.

Eighteen tasks had their continuing training frequency changed from biennial to annual. Certain other tasks which had been subsets of larger tasks were designated to have their own specific task training.

Additionally, training department personnel, also with the assistance of Operations personnel, examined 464 tasks important to plant operation that are assigned to AOs.

Again, the purpose of this examination was to identify those tasks important to plant operation that are not frequently performed by AOs. 58 tasks were identified as meeting that criteria. These 58 operator tasks were evaluated to determine the need for immediate review training, using considerations comparable to those used for ROs.

Three tasks were determined as needing immediate retraining. They were: 1) manual operation of ADVs; 2) resetting a tripped essential auxiliary feedwater pump; and 3) manual operation of MSIV bypass valves. The results of the Unit 3 event confirmed that manual operation of ADVs was a task that needed immediate retraining.

Three tasks were identified as needing the frequency of continuing training changed from biannial to annual.

Other tasks, previously not included in continuing training, were identified as needing to be included in continuing training.

Prior to the restart of Unit 2, APS conducted training for the Unit 2 ROs and AOs. This training included those tasks identified above as needing immediate training. This training was conducted using Job Performance Measures. Job Performance Measures have become a permanent enhancement to the Palo Verde continuing training program for reactor operators and auxiliary operators.

APS has incorporated the items identified above into its continuing training program.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Prior to the restart of Unit 1 and Unit 3 the immediate training in tasks identified above will be completed for the ROs and AOs assigned to such units. Such training is currently in progress.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance with the required immediate training for Unit 2 ROs and AOs was achieved by June 28, 1989.

Full compliance with the required immediate training for Unit 1 and Unit 3 ROs and AOs will be achieved prior to restart of the unit to which they are assigned from its current refueling outage.

ATTACHMENT E

Arizona Nuclear Power Project
Phoenix, Arizona

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

REPLY TO A NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

DATED SEPTEMBER 1, 1989

REPLY TO VIOLATION II.B

SUBMITTED BY ARIZONA PUBLIC SERVICE COMPANY

ATTACHMENT E

REPLY TO A NOTICE OF VIOLATION

VIOLATION II.B.

II.B. 10CFR Part 50, Appendix B, Criterion V, provides that "activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with those instructions, procedures or drawings."

Contrary to the above, on March 3, 1989, the procedure posted at the valves for manual operation of ADVs SG-HV-178, SG-HV-179, SG-HV-184, and SG-HV-185 was inadequate for the circumstances, in that it lacked the necessary specificity and detail to ensure that the specified actions were sufficient to accomplish manual valve operation. Additional actions not specified in the posted procedure were necessary before the ADVs could be used.

REPLY TO VIOLATION II.B

I. ADMISSION OR DENIAL OF ALLEGED VIOLATION II.B

APS admits the violation.

II. REASON FOR VIOLATION II.B

The instructions for manual operation posted at the ADVs and at other air operated valves provided general guidance rather than step by step instructions. The general guidance was not adequate for personnel who had not recently received training or experience in performing this task.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

In pursuing the cause of the deficiencies in posted ADV instructions, the posted instructions for manual operation of air-operated valves were examined by the Plant Standards Department with assistance of shift operating personnel. Similar deficiencies were found in several of such instructions.

As a result of such examination, the instructions for ADVs, Main Steam Isolation Valve (MSIV) bypass valves, steam bypass valves and feedwater downcomer valves have been revised and incorporated into Procedure 4XDP-XOP01, "Manual Operation of Air Operated Valves." These

instructions are no longer posted as an operator aide. Instead, operators will use the new procedure.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The corrective steps which have been taken, in conjunction with the retraining discussed in Attachment D, the Reply to Violation II.A., are sufficient to preclude further violations.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved upon completion of the revision of the instructions for manual operation of the ADVs, MSIV bypass valves, steam bypass valves and feedwater downcomer valves and the training of AOs in infrequently performed tasks.

ATTACHMENT F

Arizona Nuclear Power Project
Phoenix, Arizona

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

REPLY TO A NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTY

DATED SEPTEMBER 1, 1989

REPLY TO VIOLATION III

SUBMITTED BY ARIZONA PUBLIC SERVICE COMPANY

ATTACHMENT F

REPLY TO A NOTICE OF VIOLATION

VIOLATION III.

III. Emergency Lighting

License NPF-74 for the Palo Verde Unit 3 Nuclear Generating Station, Condition F, reads in part, "APS shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR) for the facility, as supplemented and amended, and as approved in the SER through Supplement 11, subject to the following provision:

"APS may make changes to the approved fire protection program without approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire."

A. FSAR Section 9.5.1.1.R, Safety Design Basis Eighteen, states in part that an emergency lighting system shall be provided in areas needed for operation of safe shutdown equipment. Batteries for emergency lights shall be rated for a minimum of 8 hours in areas needed for operation of safe shutdown equipment.

FSAR Table 9.5-5 and Figure 9.B-40 identify the main steam isolation and dump valve areas in the Main Steam Support (MSS) Structure as areas needed for the operation of safe shutdown equipment.

Contrary to the above, as of March 3, 1989, the licensee failed to provide an adequate emergency lighting system in the MSS Structure to support the manual operation of the Atmospheric Dump Valves (ADVs). This is evidenced by the near total darkness the auxiliary operators found in the north and south rooms of the MSS Structure, where the ADVs are located. After the loss of offsite power, it took about 30 minutes to restore lighting in the south room. No emergency lights were provided in the immediate area of the ADVs. This lack of adequate emergency lighting adversely affects the ability to achieve and maintain safe shutdown in the event of a fire.

B. FSAR Section 9.5.3.4, Inspection and Testing Requirements, states, in part, "The emergency dc lighting system . . . [is] inspected and tested periodically to ensure operability of the automatic switches and other components in the system."

FSAR Table 9B.3-1, Section C (Quality Assurance Program), requires the licensee to establish and adhere to documented instructions and administrative controls that govern the fire protection program.

Preventive Maintenance (PM) Task 058655 for Unit 3 requires a quarterly walkdown of the emergency lighting system in the MSS structure to verify operability of battery pack emergency lighting units.

Contrary to the above, as of March 3, 1989, the licensee failed to perform a quarterly walkdown of the emergency dc lighting system per PM Task 058655 in Unit 3 since September 23, 1987, waiving the inspection requirements for 5 consecutive quarters.

C. FSAR Table 9B.3-1, Section C (Quality Assurance Program), Item 5, requires the licensee to establish and implement a test program to assure that testing is performed to demonstrate conformance with design and system readiness requirements.

FSAR Section 9.5.1.1.R, Safety Design Basis Eighteen, states in part that batteries for emergency lights shall be rated for a minimum of 8 hours in areas needed for operation of safe shutdown equipment.

1. Contrary to the above, testing procedure 93GT-OZZ47, Unit 1, 2, and 3, performed during October, 1984, demonstrated operability of various emergency light battery packs located in the MSS Structure for only 2 hours instead of the design basis 8 hours.

2. Contrary to the above, as of March 3, 1989, the 18 month PM Task 055795 for Unit 3 prescribed a 1.5 hour discharge test of the battery pack emergency lighting units at the 140 foot elevation in the MSS structure, instead of the design basis 8 hours.

ATTACHMENT F

REPLY TO A NOTICE OF VIOLATION

Part 1. REPLY TO VIOLATIONS III.A. AND III.C.

A. FSAR Section 9.5.1.1.R, Safety Design Basis Eighteen, states in part that an emergency lighting system shall be provided in areas needed for operation of safe shutdown equipment. Batteries for emergency lights shall be rated for a minimum of 8 hours in areas needed for operation of safe shutdown equipment.

FSAR Table 9.5-5 and Figure 9.B-40 identify the main steam isolation and dump valve areas in the Main Steam Support (MSS) Structure as areas needed for the operation of safe shutdown equipment.

Contrary to the above, as of March 3, 1989, the licensee failed to provide an adequate emergency lighting system in the MSS Structure to support the manual operation of the Atmospheric Dump Valves (ADVs). This is evidenced by the near total darkness the auxiliary operators found in the north and south rooms of the MSS Structure, where the ADVs are located. After the loss of offsite power, it took about 30 minutes to restore lighting in the south room. No emergency lights were provided in the immediate area of the ADVs. This lack of adequate emergency lighting adversely affects the ability to achieve and maintain safe shutdown in the event of a fire.

C. FSAR Table 9B.3-1, Section C (Quality Assurance Program), Item 5, requires the licensee establish and implement a test program to assure that testing is performed to demonstrate conformance with design and system readiness requirements.

FSAR Section 9.5.1.1.R, Safety Design Basis Eighteen, states in part that batteries for emergency lights shall be rated for a minimum of 8 hours in areas needed for operation of safe shutdown equipment.

1. Contrary to the above, test procedure 93GT-OZZ47, Pre-operational Generic Test Package, Unit 1, 2, and 3, performed during October, 1984, demonstrated operability of various emergency light battery packs located in the MSS Structure for only 2 hours instead of the design basis 8 hours.

2. Contrary to the above, as of March 3, 1989, the 18 month PM Task 055795 for Unit 3 prescribed a 1.5 hour discharge test of the battery pack emergency lighting units at the 140 foot elevation in the MSS Structure, instead of the design basis 8 hours.

I. ADMISSION OR DENIAL OF THE ALLEGED VIOLATIONS III.A. AND III.C.

APS admits the violations.

II. REASON FOR VIOLATION III.A. AND III.C.

Inadequate lighting at the Unit 3 ADVs resulted from an interpretation of an ambiguity in the Final Safety Analysis Report (FSAR) emergency lighting provisions, as described further in the explanation of interpretation of Appendix R which is provided in Section VI of this response. Immediately after the March 3, 1989 event, APS management recognized that the failure to provide emergency lighting at the ADVs was unacceptable irrespective of the regulatory requirements or interpretation of FSAR provisions.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

1. Upon completion of the Incident Investigation Report (IIR) of this event on May 19, 1989, the commitment was made to install 8-hour emergency lights at the ADVs and several other locations identified in the IIR.

2. 8-hour emergency lights were installed and tested at the Unit 2 ADVs and such other locations prior to its restart and also have

been installed and are currently being tested at Unit 3. The installation of such lights has been initiated at Unit 1.

3. Promptly after the March 3, 1989 Unit 3 event, a comprehensive investigation of the emergency and essential lighting systems was launched. The report of this investigation was completed on June 1, 1989. As reported in Licensee Event Report (LER) 89-012 (NPF-41), this investigation found that the emergency lighting was deficient in 24 identified areas of Unit 2. Comparable deficiencies were also found in Units 1 and 3. The reasons for such emergency lighting deficiencies are set forth in LER 89-012.

4. Test Procedure 93GT-OZZ47, Pre-operational Generic Test Package, Unit 1, 2, and 3, is not amenable to correction. However, a proper procedure was used for testing 8-hour emergency lights installed at the ADVs and other locations identified in the IIR of March 3, 1989 event in Unit 2. This procedure will be used in Unit 1 and Unit 3.

5. The PM task for Units 1, 2, and 3 prescribing an 8-hour discharge test has been designated for application to the 8-hour emergency lights at the 140 foot elevation of the MSSS.

IV. CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. Testing of 8-hour emergency lights at the ADVs and other locations in Unit 3 will be completed prior to the restart of the unit.

2. The installation of 8-hour emergency lights at the ADVs and other locations in Unit 1 is in progress and will be completed and the lights will be tested prior to restart of the unit.

3. Corrective actions to address the deficiencies identified in LER 89-012 are set forth in detail in the LER. In summary, these actions include a review of a sample of previous regulatory related verification walkdowns; revision of the Design Criteria Manual, and revision of the procedure on "Design and Technical Document Control."

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved in Unit 2 and will be achieved in Unit 3 upon completion of the testing of 8-hour emergency lights currently in progress. Unit 1 will achieve full compliance prior to restart.

Preventive maintenance of the 8-hour emergency lights installed at the 140 foot level of the MSSS will conform to the requirements for such lights.

The programmatic corrective steps described in LER 89-012 are scheduled for completion by May 30, 1990.

VI. EXPLANATION OF STATEMENT IN LER 89-012

The letter which transmitted the Notice of Violation and Proposed Imposition of Civil Penalty directs that the response to Violations

III.A, B and C explain in detail why LER 89-012 states that local operation of the ADVs would not be required to meet the regulations.

FSAR Sections 9B.2.12.4 and 9B.2.12.5, Table 9.5-5 and Figure 9.B-40 were viewed by APS as not providing specific locations for emergency lighting. The referenced sections describe Fire Zones 74A and 74B in Fire Area XII, the main steam support structure (MSSS), both of which encompass the 100 foot, 120 foot, and 140 foot elevations. The sections use the descriptive names "Train B main steam isolation and dump valve areas" to identify these zones.

The entries in FSAR Table 9.5-5 were also vewied as identifying Fire Zones 74A and 74B by name, rather than as identifying particular equipment that would require 8-hour emergency lighting. As discussed in LER 89-012, the APS interpretation of which equipment would require local emergency lighting was based on the language of Appendix R and BTP APCSB 9.5-1.

Notice of Violation III is premised on an apparent NRC determination that the FSAR provides for 8-hour lighting at the location of the ADVs. Since the language of the FSAR is somewhat ambiguous, this NRC determination is also consistent with the FSAR.

As discussed in Section III, above, after the March 3, 1989 Unit 3 event, APS modified the emergency lighting system to provide 8-hour emergency lighting at the location of the ADVs and at a number of other locations. Accordingly, interpretation of the original intent of the FSAR as cited above no longer has any practical significance for the design or operation of PVNGS.

Part 2. REPLY TO VIOLATION III.B.

B. FSAR section 9.5.3.4, Inspection and Testing Requirements, states, in part, "The emergency dc lighting system . . . [is] inspected and tested periodically to ensure operability of the automatic switches and other components in the system.

FSAR Table 9B.3-1, Section C (Quality Assurance Program), requires the licensee to establish and adhere to documented instructions and administrative controls that govern the fire protection program.

Preventive Maintenance (PM) Task 058655 for Unit 3 requires a quarterly walkdown of the emergency lighting system in the MSS structure to verify operability of battery pack emergency lighting units.

Contrary to the above, as of March 3, 1989, the licensee failed to perform a quarterly walkdown of the emergency dc lighting system per PM Task 058655 in Unit 3 since September 23, 1987, waiving the inspection requirements for 5 consecutive quarters.

I. ADMISSION OF DENIAL OF ALLEGED VIOLATION III.B.

APS admits the violation.

II. REASON FOR VIOLATION III.B.

The violation occurred because preventive maintenance (PM) for the emergency lighting in the Main Steam Support Structures (MSSS) was grouped in a single PM task along with the PM for lighting fixtures in the containment buildings. This grouping apparently resulted from similarity in tag numbers for MSSS and containment lighting fixtures. The PM for the containment building lighting fixtures was waived because of inaccessibility during unit operation. The improper grouping of the PM for the two areas resulted in the waiver being applied automatically to

the MSSS emergency lighting fixtures.

It is concluded that the error in grouping MSSS lighting fixtures with containment lighting resulted from the following factors which collectively constitute the reason for the violation.

1. Inattention to detail by those personnel who prepared the maintenance task.

2. Inadequate review by those personnel and oversight groups required to approve the maintenance task.

As discussed in the response to Violation I.C., a comprehensive review of the preventive maintenance program was initiated after the March 3, 1989 event. This review disclosed that prior to the event the error in grouping had been identified and a revision of the preventive maintenance task had been developed. However, implementation of that revision, which might have precluded some of the lighting deficiencies which compounded the difficulties in manually operating the ADVs, was deferred to the Unit 3 outage. Consequently, delay in implementing identified corrective actions also contributed to the violation.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

1. The MSSS lighting fixtures have been inspected and tested in Unit 2 and will be inspected and tested in Units 1 and 3 prior to startup from their respective current refueling outages.

2. As described in the response to Violation I.C, a complete review of the preventive maintenance program has been completed and the improvements implemented or scheduled. The revised preventive maintenance program includes a change in the procedural controls governing the waiving of preventive maintenance tasks. The revised controls require that unit specific preventive maintenance tasks can only be waived with the written concurrence of the Unit Plant Manager; a second, consecutive waiver also requires the written approval of the Unit Plant Manager. The same policy applies for Central Maintenance preventive maintenance tasks on unit specific systems. Central Maintenance preventive maintenance tasks on common systems require the written concurrence of the Director of Nuclear Production Support.

As described in response to Violation I.A., the APS Executive Vice President, Nuclear has initiated action to assure timely implementation of corrective actions.

IV. CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The actions described above are believed adequate to avoid further violations.

V. DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full compliance was achieved in Unit 2 upon completion of inspection and testing. Units 1 and 3 will be inspected and tested prior to restart of the respective unit.