

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8912080154      DOC. DATE: 89/11/30      NOTARIZED: NO      DOCKET #  
 FACIL: STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528  
 STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529  
 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530

AUTH. NAME      AUTHOR AFFILIATION  
 CONWAY, W.F.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
 RECIP. NAME      RECIPIENT AFFILIATION  
                  Document Control Branch (Document Control Desk)

SUBJECT: Forwards response to NRC 891101 ltr re violations noted in  
 Insp Repts 50-528/89-28, 50-529/89-28 & 50-530/89-09.  
 Corrective actions: preventive maint tasks approved to  
 monitor sacrificial zinc anodes installed on drain plugs.

DISTRIBUTION CODE: IE01D      COPIES RECEIVED: LTR   /   ENCL   /   SIZE:   10    
 TITLE: General (50 Dkt)-Insp Rept/Notice of Violation Response

NOTES:      05000528  
          Standardized plant.      05000529 A  
          Standardized plant.      05000530

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD5 PD	1    1	CHAN, T	1    1
DAVIS, M.	1    1		
INTERNAL: ACRS	2    2	AEOD	1    1
AEOD/DEIIB	1    1	AEOD/TPAD	1    1
DEDRO	1    1	NRR SHANKMAN, S	1    1
NRR/DET/DIR 8H3	1    1	NRR/DLPQ/LPEB10	1    1
NRR/DOEA DIR 11	1    1	NRR/DREP/PEPB9D	1    1
NRR/DREP/PRPB11	2    2	NRR/DRIS/DIR	1    1
NRR/DST/DIR 8E2	1    1	NRR/PMAS/ILRB12	1    1
NUDOCS-ABSTRACT	1    1	OE LIEBERMAN, J	1    1
OGC/HDS1	1    1	<u>REG FILE</u> 02	1    1
RES MORISSEAU, D	1    1	RGN5 FILE 01	1    1
EXTERNAL: LPDR	1    1	NRC PDR	1    1
NSIC	1    1		

NOTES:      1    1

TOTAL NUMBER OF COPIES REQUIRED: LTTR    29    ENCL    29

Arizona Public Service Company

P.O. BOX 53999 • PHOENIX, ARIZONA 85072-3999

102-01530-WFC/TDS/TRB

November 30, 1989

WILLIAM F. CONWAY  
EXECUTIVE VICE PRESIDENT  
NUCLEAR

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

- Reference: (a) Letter from R. P. Zimmerman, Director, Division of  
Reactor Safety and Projects, NRC to W. F. Conway,  
Executive Vice President Nuclear, Arizona Public Service,  
dated November 1, 1989
- (b) Telephone call between R. P. Zimmerman, NRC and  
J. N. Bailey, APS on November 30, 1989

Dear Sir:

Subject: Palo Verde Nuclear Generating Station (PVNGS).  
Units 1, 2, and 3  
Docket No. STN 50-528 (License No. NPF-41)  
STN 50-529 (License No. NPF-51)  
STN 50-530 (License No. NPF-74)  
Reply to Notice of Violation - 50-528/89-28-06 and 50-528/89-28-09  
File: 89-070-026

This letter is provided in response to the inspection conducted by  
Mr. A. D'Angelo and other members of your staff from August 7, through  
September 1, 1989. Based on the results of the inspection, two (2) violations  
of NRC requirements were identified. The violations are discussed in Appendix  
A of reference (a). A restatement of the violations and PVNGS's responses are  
provided in Appendix A, and Attachment 1, respectively, to this letter.

Reference (a) requests that APS respond to the programmatic concerns  
identified by the inspection. In accordance with the agreement in reference  
(b), APS will address these programmatic concerns within our response to the  
NRC's Systematic Assessment of the Licensee Performance report. Should you  
have any questions regarding this response, please contact me.

Very truly yours,

*W. Conway*

8912080154 891130  
PDR ADOCK 05000528  
Q PNU

1201  
11

NRC Document Control Desk  
Page 2

102-01530-WFC/TDS/TRB  
November 30, 1989

WFC/TDS/TRB/kj

Attachments

cc: J. B. Martin  
T. J. Polich  
T. L. Chan  
E. E. Van Brunt  
A. C. Gehr  
J. R. Newman

APPENDIX A

NOTICE OF VIOLATION

During an NRC inspection conducted during the period of August 7 through September 1, 1989, 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 (1989), the violations are listed below:

- A. 10 CFR 50, Appendix B, Criterion XVI requires that, for significant conditions adverse to quality, measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. Palo Verde Nuclear Generating Station Nuclear Administrative and Technical Manual Procedure No. 73AC-OEE01, "Engineering Evaluation Request", Revision 0, implements the requirements of Criterion XVI of 10 CFR 50, Appendix B, and specifies proper resolution of nonconforming conditions.

Contrary to the above, diesel generator cooling-subsystem plug and elbow fitting failures occurring September 15, 1987 through April 12, 1989 were not corrected to preclude repetition and potentially significant, common mode failures. Although Engineering Evaluation Reports were issued by the licensee on four occasions to resolve the corrosion problems that resulted in repeated and multiple failures of these parts in all three units, effective corrective actions had not been implemented.

- B. 10 CFR 50, Appendix B, Criterion V requires that activities affecting quality shall be prescribed and accomplished in accordance with documented instructions, procedures and drawings that contain appropriate acceptance criteria for determining that the activities have been accomplished satisfactorily. PVNGS Procedure 30AC-9ZZ01 requires that after the performance of each step of a work order, the step will be initialed by the performer as completed, marked "N/A" if not applicable, or marked "failed" if the step was failed.

Contrary to the above, on August 8, 1989 four steps of the Unit 3 Core Protection Calculator Work Order No. 00372377 were completed without the required sign-offs of the performed steps.

ATTACHMENT 1

REPLY TO NOTICE OF VIOLATION 50-528/89-28-06

A.I REASON FOR VIOLATION

On June 25, 1987 an elbow fitting on Unit 2 "A" Diesel Generator (DG) intercooler failed. The elbow fitting was replaced, however, no engineering evaluation was performed to evaluate this failure as the program in place at that time did not require an engineering analysis for components which were replaced.

On July 13, 1988, a drain plug fitting on Unit 3 "A" DG intercooler failed. This failure was documented on an Engineering Evaluation Request (EER). On July 21 and 25, 1988, excessive corrosion on Unit 1 DG intercooler drain plugs was identified. Two more EERs were generated. On September 6, 1988 a second drain plug failure occurred on the Unit 2 "A" DG intercooler. This failure was documented on an EER which was written to consolidate all four drain plug problems. The drain plug failures were attributed to the same corrosion mechanism. The EER used to document the above problems was dispositioned to replace the drain plugs in all three units with a new plug and sacrificial anode. Additionally, a preventive maintenance task was requested to monitor/replace the sacrificial anodes installed in the drain plugs.

Since the only failures documented within Engineering were associated with drain plug corrosion, the root cause of failure analysis was limited to the drain plug corrosion problem. It was believed that those actions described above were sufficient and no analysis concerning potential effects on other parts of the system was performed.

On April 12, 1989, an elbow fitting failed on the Unit 2 "A" DG intercooler. This failure was documented on an EER to determine the root cause of fitting failure. A review of maintenance records revealed that this failure was similar in nature to the fitting failure which had occurred nearly two (2) years previously on June 25, 1987. On April 19, 1989, the root cause of the fitting failures was determined to be the exposure of unprotected carbon steel materials to spray pond water.

Based on the above, the reasons for the violation have been determined to be that the problem identification programs did not require an engineering analysis for components which were replaced with like parts and the root cause of failure analysis program did not assure that the analyses gave adequate consideration to components of a system not directly affected by the failure being analyzed.

A.II CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

To address the specific component failures, the following actions have been taken:

1. Preventive maintenance tasks (063039, 063040, 063035, 063036, 063026, 063034) were approved and issued on November 16, 1988, to monitor and replace, as needed, the sacrificial zinc anodes installed on the intercooler drain plugs.
2. The Unit 2 and 3 intercooler drain plugs were replaced with drain plugs and sacrificial zinc anodes (work orders 327003, 327002, 332603, 320679) during January and February, 1989.
3. Walkdown and drawing reviews were performed during April, 1989, to identify additional carbon steel fittings exposed to spray pond water. The identified fittings have been replaced in all three units.

As discussed with the NRC in several APS/NRC management meetings, PVNGS has instituted significant changes in our deficiency identification and root cause analysis programs. Specifically, PVNGS has implemented a Material Nonconformance Report (MNCR) program which ensures failures, such as occurred on the DG intercoolers, are evaluated by Engineering and a root cause of failure analysis is performed on the failed

component. The root cause analysis program within Engineering now provides several methodologies (MORT, Barrier Analysis, etc.) which are used to ensure that a root cause of failure analysis examines all potential failure mechanisms and susceptible components. Additionally, system engineers have received additional training in formal root cause analysis techniques.

A.III CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

APS believes that the actions taken above are sufficient to preclude further violations.

A.IV DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved in Units 2 and 3 upon replacement of the intercooler fittings and drain plugs.

The intercooler fittings and "B" train drain plugs have been replaced in Unit 1. Replacement of the train "A" drain plugs will be completed prior to Unit 1 restart.



component. The root cause analysis program within Engineering now provides several methodologies (MORT, Barrier Analysis, etc.) which are used to ensure that a root cause of failure analysis examines all potential failure mechanisms and susceptible components. Additionally, system engineers have received additional training in formal root cause analysis techniques.

A.III CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

APS believes that the actions taken above are sufficient to preclude further violations.

A.IV DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved in Units 2 and 3 upon replacement of the intercooler fittings and drain plugs.

The intercooler fittings and "B" train drain plugs have been replaced in Unit 1. Replacement of the drain plugs will be completed prior to Unit 1 restart.

ATTACHMENT 1

(CONTINUED)

REPLY TO NOTICE OF VIOLATION 50-528/89-28-09

B.I REASON FOR VIOLATION

As discussed in NRC Inspection Report 89-28, a review of Work Order No. 00372377 found, through a review of the associated computer printouts, that the steps which were not signed off had been completed.

The cause of the event has been determined to be a personnel error by the technician performing the work.

B.II CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

The affected technician was counseled on attention to detail. The Supervisor and the Lead reviewed 30AC-9ZZ01, Work Control, and 30DP-9MP01, Conduct of Maintenance, with the technician.

Previous work performed by the technician was evaluated for other occurrences of missed steps or other violations. No discrepancies were found.

The technician was temporarily assigned to work with or under the direction of other technicians to monitor and improve his attention

to detail. Closer monitoring of the affected technician's work was put into effect and will continue until his supervisor has reestablished confidence that the technician is consistently attentive to the detailed procedural requirements. All Operational Computer System (OCS) Maintenance Personnel attended a briefing and were counseled on "attention to detail" and the importance of documenting work as it is performed.

**B.III CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

As stated within the NRC inspection report, the NRC maintenance team and APS determined that this event was an isolated occurrence for OCS maintenance based on a review of the work orders performed for the year. Therefore no further action is required for this specific violation.

To address the overall issue of procedural compliance, APS is currently evaluating additional actions to ensure there can be no misunderstanding by employees with regard to management expectations in this area. The details and schedule of the evaluation are contained in a letter from J. N. Bailey, APS to J. B. Martin, NRC, dated November 17, 1989.

**B.IV DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Full compliance was achieved on August 15, 1989, when Work Order 00372377 was corrected.