

# CATEGORY 1

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RECIP.NAME RECIPIENT AFFILIATION  
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SUBJECT: Responds to NRC 980522 ltr re violations noted in insp repts  
50-528/98-03, 50-529/98-03 & 50-530/98-03 on 980308-0418.  
Corrective actions: cylinder insp stopped until work order  
prerequisites completed.

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102-04140-JML/AKK/DLK  
June 25, 1998

U. S. Nuclear Regulatory Commission  
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Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)**  
**Units 1, 2 and 3**  
**Docket Nos. STN 50-528/529/530**  
**Reply to Notices of Violation 50-528/98-03-03 and 50-528/98-03-04**

Arizona Public Service Company (APS) has reviewed NRC Inspection Report 50-528/529/530/98-03 and the Notices of Violation (NOVs) dated May 22, 1998.

Pursuant to the provisions of 10 CFR 2.201, APS' response is enclosed. Enclosure 1 to this letter is a restatement of the NOVs. APS' response is provided in Enclosure 2. During a telephone conversation on June 19, 1998, between K. E. Brockman, NRC, and A. K. Krainik, APS, an extension of the due date for this response from June 21, 1998 to June 26, 1998, was granted.

This reply includes commitments to develop "Conduct of Engineering" guidance and revise the "Spent Fuel Handling Machine" procedure.

Should you have any further questions, please contact Ms. Angela K. Krainik at (602) 393-5421.

Sincerely,

*Gregg H. Quabach*  
for JML

JML/AKK/DLK/mah

Enclosure 1	Restatement of Notices of Violation
Enclosure 2	Reply to Notices of Violation

cc: E. W. Merschoff  
K. E. Perkins  
M. B. Fields  
J. H. Moorman

9806300519 980625  
PDR ADOCK 05000528  
Q PDR



**ENCLOSURE 1**

**RESTATEMENT OF NOTICES OF VIOLATION  
50-528/98-03-03 and 50-528/98-03-04**

**NRC INSPECTION CONDUCTED MARCH 8 THROUGH**

**APRIL 18, 1998**

**INSPECTION REPORT NO. 50-528/529/530/98-03**



**RESTATEMENT OF NOTICES OF VIOLATION 50-528/98-03-03 "A" and  
50-528/98-03-04 "B"**

During a NRC inspection conducted on March 8 through April 18, 1998, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below.

- A. Technical Specification 6.8.1 requires, in part, that written procedures shall be implemented covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Section 9 requires that the licensee have procedures for maintenance that can affect the performance of safety-related equipment.

Procedure 31ST-9DG01, "Diesel Engine Surveillance Inspection," Revision 16, stated in part, in Prerequisite Step 7.11 that permission is required from the shift supervisor/assistant shift supervisor prior to start of the procedure.

Contrary to the above, on March 31, 1998, licensee engineering personnel failed to implement a procedure, issued to perform maintenance on safety-related equipment, in that work on the emergency diesel generator was initiated without first obtaining permission from the shift supervisor/assistant shift supervisor.

This is a Severity Level IV violation (Supplement 1) 50-528/98-03-03.

- B. Technical Specification 6.8.1 requires, in part, that written procedures shall be maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Section 2 requires that the licensee have procedures for refueling equipment.

Procedure 78OP-9FX03, "Spent Fuel Handling Machine," Revision 8, Prerequisite Step 4.2.1 required personnel to check the level in the cask loading pit and fuel transfer canal prior to moving spent fuel.

Contrary to the above, on March 26, 1998, the licensee failed to maintain Procedure 78OP-9FX03 in that the procedure did not provide specific criteria for licensee personnel to determine the minimum water level required in the transfer canal for movement of spent fuel.

This is a Severity Level IV violation (Supplement 1) 50-528/98-03-04.





**ENCLOSURE 2**

**REPLY TO NOTICES OF VIOLATION  
50-528/98-03-03 and 50-528/98-03-04**

**NRC INSPECTION CONDUCTED MARCH 8 THROUGH**

**APRIL 18, 1998**

**INSPECTION REPORT NO. 50-528/529/530/98-03**



## REPLY TO NOTICE OF VIOLATION "A"

### Reason For the Violation

On March 31, 1998, during the performance of work on emergency diesel generator 1MDGAH01, engineering personnel prematurely initiated an inspection of the cylinder liners through the injector ports on the head of the diesel. The Emergency Diesel Generator Team planned to work two work orders that day – one removed the injectors, the other contained the instructions to inspect the cylinder liners. The work order that removed the injectors was properly authorized and performed. The work order containing the instructions to inspect the cylinder liners did not have the appropriate prerequisite steps signed prior to beginning the inspection. The team leader was in the process of performing the final walkdown prior to obtaining written authorization to commence work when engineering personnel prematurely initiated the cylinder inspection. Contrary to the procedure "Conduct of Maintenance," the responsible engineers did not ensure the applicable work order was at the job site nor did they verify that the prerequisites were completed prior to starting work. The procedural violation was administrative in nature and was of low safety significance.

The reason for the violation was personnel error on the part of the responsible engineers for failing to follow the "Conduct of Maintenance" procedure.

A contributing reason for the violation was the failure of the Emergency Diesel



Generator Team Leader to adequately instruct the engineers not to proceed with the cylinder inspection until the prerequisite steps of the applicable work order were signed and the work order returned to the job site.

Corrective Steps That Have Been Taken and Results Achieved

The cylinder inspection was stopped until the work order prerequisites were completed.

Maintenance and engineering personnel, including the Emergency Diesel Generator Team Leader, were briefed on following the "Conduct of Maintenance" procedure prior to resuming the cylinder inspections.

Corrective Steps That Will Be Taken To Avoid Further Violations

Engineering will develop "Conduct of Engineering" guidance that will include engineering responsibilities relative to performing inspections, testing and support of maintenance activities in the field. The "Conduct of Engineering" guidance will be presented to appropriate engineering personnel prior to September 12, 1998.

Date when Full Compliance Will Be Achieved

Compliance was achieved on March 31, 1998, when engineering personnel removed the boroscope probe from the EDG cylinder and stopped work.



## REPLY TO NOTICE OF VIOLATION "B"

### Reason For the Violation

On March 25, 1998, during the performance of fuel inspection activities, Refueling and Mechanical Services (RAMS) personnel lifted an irradiated fuel assembly and were in the process of moving it to its assigned storage location when a radiation monitoring alarm triggered. The irradiated fuel assembly was immediately lowered into its assigned storage location and radiation levels returned to normal. The time elapsed for the duration of the alarm was 20 to 30 seconds. Personnel in the area received no additional measurable dose as a result of the event.

Water level in the fuel transfer canal at the time of the event was approximately 7 feet lower than water level in the spent fuel pool. The "Spent Fuel Handling Machine" procedure provided guidance relative to lower water levels in the fuel transfer canal, but did not include the specific criteria to be used in determining the minimum water level in the transfer canal for movement of spent fuel. Based on past experience, the RAMS Team Leader determined that the water level in the transfer canal was adequate to safely perform the fuel inspections and move the irradiated fuel assemblies to their assigned storage locations.

The Team Leader discussed the fuel transfer canal water level condition with the Shift Manager at the pre-job briefing and made the recommendation to proceed without raising water level in the fuel transfer canal. The Team Leader's recommendation was





acceptable to the Shift Manager who also preferred to proceed without raising water level. At the time, the refueling pool level was being maintained below 114 feet to support unrelated work on the reactor coolant pumps. The lower water level in transfer canal would minimize the pressure differential across the fuel transfer valve and reduce the possibility of water leakage into the refueling pool. The Shift Manager granted permission to proceed. As the assigned spent fuel assembly approached the transfer canal gate, the lower water level on the opposite side of the gate did not provide sufficient shielding to prevent the radiation monitor from alarming. The controlling procedure did not contain enough guidance to ensure that water level in the transfer canal provided the shielding necessary to prevent radiation monitors from alarming while moving spent fuel.

The reason for the violation was the prerequisite section of the "Spent Fuel Handling Machine" procedure did not provide adequate precautions or additional actions to be taken if level within the transfer canal was "not full" when moving fuel near the spent fuel pool transfer canal gate. Additionally, no guidance was provided regarding factors that must be considered when evaluating adequate water level for planned evolutions.

#### Corrective Steps That Have Been Taken and Results Achieved

As an interim corrective step, no irradiated fuel was moved in the vicinity of the transfer canal gate until water level in the transfer canal was equalized with the spent fuel pool. This eliminated the potential for elevated radiation levels as a result of a lower water level in the transfer canal.



#### Corrective Steps That Will Be Taken To Avoid Further Violations

The "Spent Fuel Handling Machine" procedure will be revised to include a limitation that no irradiated fuel will be moved in the spent fuel pool unless water level in the fuel transfer canal is equalized with the spent fuel pool. The revision will be effective prior to September 1, 1998.

#### Date when Full Compliance Will Be Achieved

Full compliance will be achieved by September 1, 1998 (prior to the next Palo Verde refueling outage) when the "Spent Fuel Handling Machine" procedure is revised.



**Kanitz, Duane L(Z54999)**

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**From:** Kanitz, Duane L(Z54999)  
**Sent:** Friday, June 19, 1998 8:12 AM  
**To:** Ide, William E(Z53314)  
**Cc:** Krainik, Angela K(V21680); Studer, Paul M(Z92847); Muhs, Michael K(Z69505); Winsor, Michael J(Z98382); Rash, Bruce J(Z77439)  
**Subject:** RE: NOV Response  
**Importance:** High

Bill

Thank you. I incorporated your comment by changing the word "process" to "guidance." I asked on the front end why we were using the term "process" instead of "procedure." I was told that we were not sure what form "Conduct of Engineering" was going to take.

Thanks  
Duane

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**From:** Ide, William E(Z53314)  
**Sent:** Thursday, June 18, 1998 4:12 PM  
**To:** Kanitz, Duane L(Z54999); Rash, Bruce J(Z77439); Krainik, Angela K(V21680)  
**Subject:** NOV Response

I have reviewed NOV 98-03 and 04 response (6/16 version ) and have one comment, the conduct of engineering item is not a process but a procedure or guideline.

