

10 CFR 2.201
NOV EA-05-051



Palo Verde Nuclear
Generating Station

Gregg R. Overbeck
Senior Vice President
Nuclear

Tel (623) 393-5148
Fax (623) 393-6077
e-mail: GOVERBEC@apsc.com

Mail Station 7602
PO Box 52034
Phoenix, Arizona 85072-2034

102-05289-GRO/SAB/GAM
June 7, 2005

Mr. Michael Johnson
Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
One White Flint North, 11555 Rockville Pike
Rockville, MD 20852-2738

Dear Mr. Johnson:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Docket Nos. STN 50-528, 50-529, and 50-530
Reply to a Notice of Violation, EA-05-051, and Statement as to
Payment of Civil Penalty**

In a letter to Arizona Public Service Company (APS) dated April 8, 2005, the NRC identified that a Severity Level III violation occurred at PVNGS in June 1992, and imposed a civil penalty of \$50,000. In particular, the violation was the failure to implement the requirements of 10 CFR 50.59 and receive prior NRC approval of the change to Procedure 41ST-1SI09, "ECCS [emergency core cooling system] Leak Test," which drained, and left empty, a portion of the containment sump safety injection recirculation piping.

The April 8, 2005 Notice of Violation (NOV) required a reply within 30 days of the NOV. However, in a letter to APS dated May 9, 2005, the NRC approved a request for a 30-day extension to reply to the NOV.

APS admits that violation EA-05-051 occurred, and has elected to pay the civil penalty in the amount of \$50,000 in accordance with 10 CFR 2.205. Payment is being made by electronic transfer as described in Enclosure 4.

A member of the **STARS** (Strategic Teaming and Resource Sharing) Alliance

Callaway • Comanche Peak • Diablo Canyon • Palo Verde • South Texas Project • Wolf Creek.

Mr. Michael Johnson,
Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
Reply to a Notice of Violation, EA-05-051,
and Statement as to Payment of Civil Penalty
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Pursuant to the requirements of 10 CFR 2.201 and the April 8, 2005 Notice of Violation (NOV) EA-05-051, APS hereby submits this reply to the NOV. Enclosure 1 to this letter is an affidavit to comply with the requirement for an oath or affirmation specified in the NOV. Enclosure 2 contains a restatement of the violation. Enclosure 3 contains APS' reply to the notice of violation. Enclosure 4 contains a statement indicating the civil penalty payment method.

There are no regulatory commitments in this letter. The corrective actions to avoid further violations are described in Enclosure 3.

If you have any questions, please contact Craig K. Seaman at (623) 393-5421.

Sincerely,



GRO/SAB/GAM

Enclosures: 1. Affidavit
2. Restatement of Violation, EA-05-051
3. Reply to a Notice of Violation, EA-05-051
4. Statement Indicating Civil Penalty Payment Method

cc: B. S. Mallett NRC Region IV Regional Administrator
M. B. Fields NRC NRR Project Manager
G. G. Warnick NRC Senior Resident Inspector for PVNGS

Enclosure 1

Affidavit

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

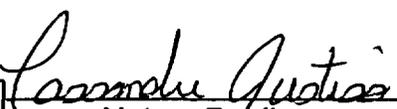
I, Gregg R. Overbeck, represent that I am Senior Vice President – Nuclear, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, and that to the best of my knowledge and belief, the statements made therein are true and correct.



Gregg R. Overbeck

Sworn To Before Me This 7th Day Of June, 2005.

 OFFICAL SEAL
Cassandre Justiss
NOTARY PUBLIC - STATE of ARIZONA
MARICOPA COUNTY
MY COMM. EXPIRES October 30, 2006



Notary Public

Notary Commission Stamp

ENCLOSURE 2

Restatement of Violation, EA-05-051

During an NRC inspection completed December 8, 2004, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violation and associated civil penalty are set forth below:

10 CFR 50.59(a)(1) [1992 version] states, in part, that the holder of a license authorizing operation of a production or utilization facility may: (1) make changes in the facility as described in the safety analysis report, (2) make changes in the procedures as described in the safety analysis report, and (3) conduct tests or experiments not described in the safety analysis report, without prior Commission approval, unless the proposed change, test, or experiment involves a change in the Technical Specifications incorporated in the license or an unreviewed safety question. A proposed change, test, or experiment shall be deemed to involve an unreviewed safety question: (1) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased; (2) if a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or (3) if the margin of safety as defined in the basis for any Technical Specification is reduced.

The Palo Verde Nuclear Generating Station Updated Final Safety Analysis Report (UFSAR), Section 6.3, "Emergency Core Cooling System," states, in part, that the safety injection piping will be maintained filled with water, and that during recirculation mode, the available net positive suction head for the containment spray and high pressure safety injection pumps is 25.8 feet and 28.8 feet, respectively (values that assume the pump suction piping is filled with water).

Contrary to the above, on June 22, 1992, the licensee made a procedural change which resulted in a change to the facility as described in the UFSAR that increased the probability of a malfunction of equipment important to safety previously evaluated in the safety analysis report, and the licensee failed to perform a written safety evaluation and obtain Commission approval prior to implementing the change. Specifically, a change was made to Surveillance Procedure 41ST-1SI09, "ECCS Leak Test," which drained, and left empty, a portion of the containment sump safety injection recirculation piping at the conclusion of the leak test. This change also affected the available net positive suction head analysis described in the UFSAR for the containment spray and high pressure safety injection pumps, which are important to safety, since these analyses assumed the pump suction piping would be filled with water.

This is a Severity Level III Violation (Supplement I). Civil Penalty - \$50,000.

Enclosure 3
Reply to a Notice of Violation, EA-05-051

1. Admission or Denial of the Alleged Violation

Arizona Public service Company (APS) admits that the alleged violation, as described in Notice of Violation, EA-05-051 occurred.

2. The Reasons For The Violation if Admitted, And If Denied, The Reasons Why

An investigation into the root cause of this violation is ongoing. At this time, the reasons identified for this violation are a combination of human performance errors and inadequate procedures as follows:

- A. Human performance errors occurred in 1992 when the procedure writer, reviewer, and approver incorrectly concluded that the procedure change to Surveillance Procedure 41ST-1SI09, "ECCS Leak Test," which drained, and left empty, a portion of the containment sump safety injection recirculation piping at the conclusion of the leak test, was not an "intent" change. PVNGS procedure 01AC-0AP02, "Review and Approval of Nuclear Administrative Control Procedures," stated that an intent change "exists when the change affects the ability of a safety related system or component to perform its appropriate safety function." Procedure 01AC-0AP02 specified that if a proposed change would not change the intent of a procedure, then it was not required to be evaluated under 10 CFR 50.59. By incorrectly concluding that the change did not affect the ability of the ECCS to perform its safety function and was, therefore, not an intent change, the procedure change was allowed to be made without entering the PVNGS 10 CFR 50.59 process.

The procedure change preparer, though no longer working at PVNGS, was interviewed. The procedure change reviewer and approver are no longer employed at PVNGS and were unavailable for interview. From the available information it is believed these three individuals incorrectly concluded that the 1992 procedure change did not affect the ability of the ECCS to perform its safety function and was not an "intent" change because of (1) an erroneous understanding that the as-found empty pipe condition was the system design configuration, and (2) an erroneous understanding that the containment sump safety injection recirculation piping would self-vent upon a recirculation actuation signal (RAS).

- B. In June 1992, PVNGS procedure 01AC-0AP02, "Review and Approval of Nuclear Administrative Control Procedures," was inadequate in that the definition of intent vs non-intent established an inappropriate threshold for pre-screening changes so that a 10 CFR 50.59 was not required. The procedure also did not require the basis or justification for the determination to be documented.

The investigation of this issue identified other missed opportunities and, therefore, causes that allowed the 1992 procedure change to be implemented. These opportunities are also discussed in the response to Notice of Violation EA-04-221. These causes are as follows:

- C. In June 1992, Palo Verde procedure, 90AC-0IP04, "Condition Reporting," was inadequate in that it did not specify that the condition reporting process provided a means to request technical clarification and/or evaluation. This contributed to Engineering personnel failing to document and achieve resolution to questions regarding the dry containment sump safety injection recirculation piping condition in the corrective action process.

- D. In June 1992, Palo Verde procedure 70AC-0EE02, "Engineering Evaluation Request [EER]," was inadequate in that it allowed technical questions or concerns to be resolved by normal work control channels and not be documented in an EER. This contributed to Engineering personnel failing to document and achieve resolution to questions regarding the dry containment sump safety injection recirculation piping condition in an EER.
- E. In November 1992, Operations personnel initiated an Instruction Change Request (ICR) that questioned the acceptability of leaving the suction piping unfilled during operation due to a potential for air binding of containment spray pumps. Operations personnel failed to initiate a CRDR to identify and resolve this question. Palo Verde procedure 03GB-0AP01, "Instruction Change Request," was inadequate in that it allowed questions and responses regarding operability to be provided in an ICR

3. The Corrective Steps That Have Been Taken and the Results Achieved

- A. The voided ECCS sump suction piping in all three PVNGS units was filled by August 4, 2004. This action restored the units to the intended design configuration and eliminated the unreviewed safety question and the attendant need for NRC approval.
- B. In order to ensure the sump suction lines remain in a filled condition while the system is in operation the following changes have been implemented:
- Changes have been implemented in Revision 49 of procedure 40OP-9SI02, "Recovery from Shutdown Cooling to Normal Operating Lineup," to fill the ECCS suction lines with borated water prior to returning the system to a mode where it is required to be OPERABLE.

- Procedure 40ST-9SI09, "ECCS Systems Leak Test," has been changed to add a requirement to go to procedure 40OP-9SI02 to fill the ECCS suction line with borated water following the leak test.
 - Modifications have been completed in Units 2 and 3 to return the ECCS sump design configuration to the intended design---ECCS sump dry and the suction lines filled with water. The modifications added additional vent, drain and fill connections on the SI piping to facilitate filling and maintaining the lines in a filled condition. Procedure 40ST-9SI04, "Containment Spray Valve Verification," has been updated to vent the sump suction lines every 31 days in those units.
 - Procedures 73ST-9XI03 and 04, "SI Train A [B] Valves – Inservice Test," have been changed in accordance with 10 CFR 50.55a to revise the periodicity of the valve stroke timing surveillance for the ECCS sump isolation valves in Units 2 and 3 from quarterly to every refueling outage so that the filled ECCS sump suction lines will not be drained to the sumps by cycling these valves when the ECCS is required to be operable.
- C. This violation and the design configuration issue have been widely communicated to plant personnel, and the requirement for the ECCS sump suction line to be filled has been discussed with PVNGS engineering staff in quarterly engineering training and in briefings with the operations staff. In addition, the Design Basis Manual for the safety injection system has been revised to clearly identify the requirement that the ECCS suction piping shall be filled during all modes when the ECCS is required to be operable.

Since the 1992 procedure change, numerous changes have been made to PVNGS processes including the procedure change process and the 10 CFR 50.59 process. In the mid-1990s the PVNGS licensing basis was made electronically available in a

searchable format on the site computer network. This feature allows faster and more accurate identification of the licensing bases, improving the capability to perform the reviews needed to conduct thorough 10 CFR 50.59 screenings and evaluations. Effective December 3, 1998, the PVNGS procedure for controlling procedure changes, 01DP-0AP01, "Procedure Process" (formerly 01AC-0AP02, "Review and Approval of Nuclear Administrative Control Procedures"), was changed in Revision 7, to eliminate the provision that allowed non-intent changes. The current procedure, now at Revision 17, requires that all procedure changes except "minor" changes (i.e., editorial or administrative changes) either have an existing valid 10 CFR 50.59 screening/evaluation or prior NRC approval, or it must be assessed in accordance with the PVNGS 10 CFR 50.59 procedure 93DP-0LC07.

The PVNGS 10 CFR 50.59 program implementing procedure, 93DP-0LC07, "10 CFR 50.59 and 72.48 Screenings and Evaluations," was revised to implement the revised 10 CFR 50.59 rule in September 2001. Initial training was provided to qualified personnel addressing the changes in the process. Requalification training is provided every other year to qualified personnel. Ongoing monitoring of the program is conducted by the program manager to determine if there are any adverse trends in performance. In 2004 an adverse trend was noted and a corrective action document was written to address the observed trend. Weaknesses were identified in performance of applicability determinations (i.e., the process for determining if a 10 CFR 50.59 screening is required). Additionally, weaknesses were identified in understanding the concept of "design functions," thresholds for performing 10 CFR 50.59 screenings, evaluations, and obtaining NRC approval, and the relationship between 10 CFR 50.59 and compensatory measures for degraded/nonconforming conditions. A 10 CFR 50.59 corrective action plan was developed as part of the evaluation of the adverse trend. That corrective action plan is in the process of being implemented. In early 2005, biennial re-qualification training was augmented with an eight hour classroom session focusing on the weaknesses identified. Additional corrective actions which are still in progress are described below.

4. The Corrective Steps That Will Be Taken To Avoid Further Violations

- A. The modifications and procedure changes described in 3.B above that have been implemented in PVNGS Units 2 and 3 will be installed in Unit 1 during its next refueling outage in the Fall of 2005. Until then, the Unit 1 ECCS sumps are filled along with the ECCS sump suction lines. Procedure 40OP-9SI02 requires the lines and sump to be filled when starting up, and the sump levels are checked monthly in procedure 40DP-9OP06, "Operations Department Repetitive Task Program."

- B. APS will review selected site change processes to identify any vulnerabilities that could lead to missed 10 CFR 50.59 screenings and/or evaluations. This initial review will be completed by July 15, 2005. A schedule for implementation of any identified improvements to the change processes or to expand the selection of processes to be reviewed will be established following completion of the initial review.

- C. The 10 CFR 50.59 applicability determination process will be reviewed to identify any weaknesses that could lead to missed 10 CFR 50.59 screenings and/or evaluations. This review will be completed by July 15, 2005. A schedule for implementation of any identified improvements to the 10 CFR 50.59 applicability determination process will be established following completion of the review.

- D. In order to determine if other procedure changes have been made without the proper 10 CFR 50.59 reviews (extent of condition), a sample review of procedure changes is being performed. This review will be completed by July 15, 2005. Any procedure changes that failed to receive 10 CFR 50.59 reviews when they should have will be addressed in the PVNGS corrective action program.

The root cause investigation of this violation is ongoing, and additional corrective steps to avoid further violations may be identified in the course of this investigation.

5. The Date When Full Compliance Will Be Achieved

Full compliance was achieved when the voided ECCS sump suction piping was filled in all three PVNGS units by August 4, 2004, thereby eliminating the unreviewed safety question.

Enclosure 4

**Statement Indicating Civil Penalty Payment Method
Docket Nos. 50-528; 50-529; 50-530
License Nos. NPF-41; NPF-51; NPF-74
EA-05-051**

On Friday, June 3, 2005, a payment of \$50,000 for the civil penalty associated with NRC Notice of Violation EA-05-051 was electronically transferred to the NRC via electronic funds transfer (wire number 95001918) using the U.S. Department of Treasury Fedwire Deposit System specified as payment method 3 in NUREG/BR-0254, Revision 2.