



A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear
Generating Station

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ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Reference: Palo Verde Nuclear Generating Station Units 1, 2 and 3
NRC Problem Identification and Resolution, and Confirmatory Action Letter
(CAL-4-07-004) Follow-Up Inspection Reports 05000528/2009006,
05000529/2009006, 05000530/2009006, and Notice of Violation, dated
March 20, 2009

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Docket Nos. STN 50-528, 50-529, and 50-530
Reply to Notice of Violation EA-09-057

In the above referenced letter to APS, the NRC identified that APS failed to adequately translate design basis maximum condensate storage tank temperature requirements into procedures to ensure the plant is operated within its design basis.

Pursuant to the requirements of 10 CFR 2.201 and the March 20, 2009, Notice of Violation (NOV) EA-09-057 that was attached to the above referenced letter, APS hereby submits its reply to the NOV. Enclosure 1 to this letter contains a restatement of the violation. Enclosure 2 contains APS' reply to the NOV.

No commitments are being made to the NRC by this letter

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If you have any questions, please contact Ray Buzard, Regulatory Affairs, Compliance Section Leader, at (623) 393-5317.

Sincerely,

D.C. Morris

DCM/REB/DFH

Enclosures: 1. Restatement of Violation EA-09-057
2. Reply to Notice of Violation EA-09-057

cc:	E. E. Collins Jr.	NRC Region IV Regional Administrator
	J. R. Hall	NRC NRR Project Manager
	R. I. Treadway	NRC Senior Resident Inspector for PVNGS

Enclosure 1
Restatement of Notice of Violation EA-09-057

During an NRC inspection conducted on February 2 through February 27, 2009, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that the design basis for structures, systems and components be translated into specifications, drawings, procedures, and instructions.

Contrary to the above, from 1985 to February 27, 2009, the licensee failed to adequately translate design basis information into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to adequately translate design basis maximum condensate storage tank temperature requirements into procedures to ensure the plant is operated within its design basis.

This violation is associated with a Green Significance Determination Process finding.

Enclosure 2

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The Reason For The Violation

The root causes for failing to adequately translate the maximum condensate storage tank (CST) temperature design limit into procedures were found to be similar to those previously identified by the Palo Verde Improved Performance and Cultural Transformation (ImPACT) root cause evaluations of "Weaknesses in Design Control and Configuration Management Process" and "Engineering Technical Rigor." Specifically, the Palo Verde Engineering Department had not taken full ownership and accountability as the design authority at the Palo Verde Nuclear Generating Station (PVNGS) and Engineering leadership had not maintained accountability for enforcement of engineering fundamentals and human performance standards.

The Corrective Steps That Have Been Taken And The Results Achieved

As an immediate corrective action, on February 18, 2009, Standing Order 219 was issued to increase the frequency for monitoring the CST local temperature when main condenser condensate is rejected to the CST, as this could elevate CST temperature.

On February 27, 2009, procedure 40DP-9OPA2, "Area 2 Operator Logs, Modes 1 – 4," required a plant Auxiliary Operator to monitor the CST temperature three times per shift (in four hour intervals). This revision (which became effective in the afternoon of February 26, 2009) included a note providing the design limits of 40°F and 120°F and the operating limits of 60°F and 110°F for the CST temperature. Additionally, the revision provides actions for the Auxiliary Operator to notify the Control Room Supervisor (CRS) or Shift Manager (SM) if the CST temperature reaches 105°F in order to maintain a heightened awareness of system operations that may impact CST temperature, e.g., high rate blowdowns. If the CST temperature reaches 110°F, the procedure directs the CRS or SM to stop actions that reject main condenser condensate into the CST.

Concurrent with the changes made to procedure 40DP-9OPA2, procedure 40OP-9ZZ14, "Feedwater and Condensate," was revised to include limitations for the CST temperature and precautions regarding the potential impact on the CST temperature when rejecting main condenser condensate to the CST.

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In addition to the operating procedure changes referenced above, Engineering reviewed design documents to determine if more restrictive values than the 120°F (maximum) and the 40°F (minimum) were used to support other engineering analyses. The result of the review identified two design documents where temperature values were more restrictive; however, Engineering had previously reported deficiencies with both documents in the Corrective Action Program, and Operability Determinations were in place that concluded the CST remained operable. One Operability Determination was revised at Engineering's request to provide further detail about CST cover gas temperature.

The Updated Final Safety Analysis Report (UFSAR) Chapters 6 and 15 safety analyses were also reviewed for extent of condition. No analyses were identified that used CST temperatures more restrictive than 40°F and 120°F.

These actions have resulted in increased awareness by appropriate Operations and Engineering personnel of the CST design temperature values and plant conditions that could affect the CST temperature.

The Corrective Steps That Will Be Taken To Avoid Further Violations

Corrective actions for the lack of ownership and accountability as the design authority and engineering leadership not maintaining accountability for enforcement of engineering fundamentals and human performance standards were developed as a part of the ImpACT root cause evaluations. Implementation of these recent corrective actions and other related ImpACT corrective actions, in conjunction with continued emphasis on the principles and behaviors inherent in those corrective actions, will assist in the mitigation of legacy behaviors that led to the lack of ownership of the corrective actions for resolution of design and licensing basis issues for the CST temperature.

These corrective actions included the following actions to address the accountability and ownership within the engineering department:

- An Engineering Principals and Expectations handbook was developed and training was provided to engineering personnel for clear understanding of engineering roles and responsibilities including the engineering responsibility as the design authority.

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- Communications were provided to site personnel to establish a clear understanding of the role of the Engineering Department as the design authority.
- A Conduct of Engineering procedure was developed and issued to the engineering staff to provide guidance for engineering decisions during performance of various tasks and activities. This procedure outlines the expectations and the behaviors necessary for the engineering staff to demonstrate proper ownership of the design basis and employ high standards of technical rigor and conservative decision making in functioning as the technical conscience of the site.
- A Palo Verde leadership model was developed and implemented to establish standards of performance and use them as the basis for improving individual behaviors and station performance.
- An engineering product quality review board, consisting of senior engineering management, was implemented to evaluate selected engineering products to ensure behaviors that support high standards of work are achieved and appropriate feedback is provided.
- Engineering human performance tools were issued to provide guidance that supports improved quality through work checklists and pre-job briefings. This is supported by an engineering observation program to monitor, evaluate and coach high standards of performance.

In addition to the above actions, a Component Design Basis Review (CDBR) project is currently in progress to identify and correct potential latent design basis degraded conditions on components that have risk significance similar to the guidance identified in the NRC Component Design Basis Inspection (CDBI) Module.

Palo Verde will continue to monitor the CST temperature at an increased frequency until the CST temperature design basis review is completed and clearly documented. This review will also include an assessment of heat sources that affect the CST temperature and an assessment of the method of monitoring condensate storage tank bulk temperature.

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The Date When Full Compliance Will Be Achieved

Full compliance was achieved on February 27, 2009, when procedures 40DP-9OPA2, "Area 2 Operator Logs, Modes 1 – 4," and 40OP-9ZZ14, "Feedwater and Condensate," provided instructions for increased monitoring and recording of the local CST temperature and actions to be taken if temperature limits are approached.