

Palo Verde 2

4Q/2010 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 17, 2010

Identified By: NRC

Item Type: VIO Violation

Failure to Correct a Significant Condition Adverse to Quality Associated with the Unit 2 Fuel Oil Transfer Pumps

Inspectors identified a Green cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action", for the failure of the licensee to correct a significant condition adverse to quality associated with the emergency diesel generator fuel oil transfer pumps. Specifically, from April 2009 to September 2010, the licensee failed to correct a water intrusion path to the motor termination box for the Unit 2 emergency diesel generator fuel oil transfer pumps, resulting with degraded electrical connections. As an interim corrective action, splices have been placed in the cabling to prevent water from reaching the motor terminations. Due to the licensee's failure to restore compliance to a previous violation NCV 05000529/2009004-02 within a reasonable time, this violation is being cited as a Notice of Violation consistent with the NRC Enforcement Policy. This has been entered into the licensee's corrective action program as Condition Report Disposition Request 3529151.

The performance deficiency associated with this finding was the failure of the licensee to correct a significant condition adverse to quality and prevent recurrence. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a Phase 2 significance determination using the pre-solved worksheet from the "Risk Informed Inspection Notebook for the Palo Verde Nuclear Generating Station," Revision 2.01a. The analyst assumed an exposure period of one year. The finding was potentially Yellow, which warranted further review. The senior reactor analyst subsequently performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The dominant cutsets included a loss of offsite power initiating event, failure to align the turbine driven generator and failures of the turbine driven auxiliary feedwater pump. Since most of this same equipment remained available, the components helped to mitigate the significance of the finding. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary. [P.1.(c)]

Inspection Report# : [2010008](#) (*pdf*)

Significance:  Aug 21, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Promptly Identify and Correct a Condition Adverse to Quality for Foreign Material in the Pneumatic Supply Lines to the Atmospheric Dump Valves Actuators

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of engineering personnel to promptly identify and correct a condition adverse to quality associated with foreign material in the nitrogen and instrument air supply to the atmospheric dump valve. Specifically, between July

2009 and August 2010, corrective actions to address foreign material in the Unit 3 instrument air supply to atmospheric dump valve ADV-185 failed to promptly identify and remove similar debris in remaining instrument air or nitrogen supply lines. The licensee is developing new work orders to flush and inspect pneumatic supply lines to the atmospheric dump valves. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3531638.

The performance deficiency was more than minor, and is therefore a finding, because it affected the equipment reliability attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to have a crosscutting aspect in the area of human performance associated with the decision making component because the licensee failed to conduct effectiveness reviews of safety significant decisions to verify the validity of assumptions, identify possible unintended consequences, and determine how to improve future decisions.

Inspection Report# : [2010004](#) (pdf)

Significance:  Apr 10, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unqualified Coatings in Containment

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V," Instructions, Procedures, and Drawings," for an inadequate procedure for the application of coatings in containment. Specifically, during construction, Specification 13-AM-314, "Installation Specification for Surface Coating Systems for Concrete," improperly required a dry-film thickness of 2 to 5 mils for Mobil/Valspar 84-V-200, which is beyond the limits of 2 to 5 mils wet-film thickness that was allowed by the vendor instructions. Mobil/Valspar 84-V-200 was found to lack design basis testing and subsequent testing demonstrated that 50 percent of the coating in excess of 2 mils thickness failed as particulate, rather than chips, which increases debris loading on the containment sump. The licensee plans to revise calculation N001-1106-00002, "Debris Generation Due to LOCA within Containment for Resolution of GSI-191," to incorporate the added debris loading from the unqualified coatings as a corrective action. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3469133.

The performance deficiency was more than minor, and is therefore a finding, because it affected the design control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not reflective of current performance.

Inspection Report# : [2010004](#) (pdf)

Significance:  Mar 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Mispositioning of Valve Renders Essential Chiller Inoperable

A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, between December 24, 2009 and January 26, 2010, refrigerant head pressure bypass control valve 2-EWBV-349 was in the locked open position as opposed to its required position of locked closed. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3430116 which included corrective actions to train operations personnel on the requirements for independent verification.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green) because the dominant core damage sequences only included a failure of multiple auxiliary feedwater pumps and because the chiller was only inoperable for a narrow range of initiating events. The finding has a cross-cutting aspect in the area of Human Performance associated with work practices because the licensee failed to use human error prevention techniques such as self and peer checking commensurate with the risk of the assigned task [H.4(a)].

Inspection Report# : [2010002](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Dec 17, 2010

Identified By: NRC

Item Type: FIN Finding

Palo Verde Nuclear Generating Station Biennial PI&R Inspection Summary

The team concluded that the corrective action program at Palo Verde Nuclear Generating Station was generally effective. The team concluded that site personnel identify problems at a low threshold and enter them into the corrective action program. The licensee utilizes a rigorous screening process to characterize issues and that the vast majority of issues are appropriately evaluated and adequate corrective actions are taken. The team did identify isolated cases where problem evaluation could have been more effective at addressing the underlying causes of issues as well as a number of examples where corrective actions were not timely or adequate to address identified problems. The team also determined that though the overall process for identifying and correcting issues was well established, certain incidents of procedural violations associated with corrective action program processes led to delays and less than

adequate actions to correct material deficiencies. Though the team identified areas in which the licensee could improve their corrective action program, the overall process was determined to be effective in identifying and correcting conditions adverse to quality.

The licensee appropriately evaluated industry operating experience for relevance to the facility, entered applicable items in the corrective action program, and subsequently utilized OE in root cause and apparent cause evaluations. The team did determine that that the licensee could improve its utilization of OE to prevent the occurrence of similar events at Palo Verde. The team determined that the licensee performed very effective quality assurance audits and self assessments.

The team performed 7 safety culture focus group discussions involving approximately 70 licensee personnel in order assess the safety conscious work environment of the site. The team felt that most of the work groups interviewed had a strong safety conscious work environment; however, 3 of the 7 work groups interviewed exhibited weaknesses in safety culture. Specifically, the team found that although there were many individuals who felt comfortable raising safety concerns without fear of retaliation, there were some individuals in the operations department who expressed the perception that they would or might be retaliated against for raising certain safety concerns.

Inspection Report# : [2010008](#) (*pdf*)

Last modified : March 03, 2011