

# Palo Verde 1

## 4Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 07, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

**Failure to Establish Procedures to Restore the Required Configuration of 13.8kV Electrical Bus Ducting.**

A self-revealing finding was identified for the failure of maintenance personnel to provide adequate procedures and ensure work was performed properly for installation of the ducting for the 13.8 kV bus to ensure it was weather tight. Specifically, on March 7, 2010, the 1E-NAN-A03 electrical bus catastrophically failed due to water intrusion from heavy rains due to improper installation of the ducting in November 2007. The licensee has implemented corrective actions to provide adequate instruction for this maintenance activity and training for maintenance personnel, and has entered this issue into the licensee's corrective action program as Condition Report Disposition Request 344792.

The finding was more than minor because it affected the configuration control attribute of the Initiating Events Cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and mitigating equipment or functions not being available. This finding has a crosscutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure training of personnel was adequate to assure nuclear safety.

Inspection Report# : [2010003](#) (*pdf*)

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### Mitigating Systems

**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:** G 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)

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## **Barrier Integrity**

**Significance:** G May 02, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Inadequate Post Maintenance Test Results with an Inoperable Containment.**

A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of maintenance personnel to follow work instructions during the 1R15 refueling outage. Specifically, on May 2, 2010, maintenance personnel were performing maintenance on the containment equipment hatch hoist and failed to ensure an adequate postmaintenance test was completed. On May 8, maintenance personnel discovered that the hoist would not completely lower and that they could not position the containment equipment hatch due to a malfunctioning lower limit switch. The licensee readjusted the malfunctioning limit switch for the west hoist to restore the ability to close the containment hatch and performed a proper postmaintenance test as a corrective action and entered this issue into the licensee's corrective action program as Palo Verde Action Request 3478220.

The finding was more than minor because it affected the configuration control attribute of the Barrier Integrity Cornerstone, and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix H, "Containment Integrity Significance Determination Process," Figure 6.2, the finding was determined to have very low safety significance because the finding occurred in a time window greater than 8 days after the start of the outage. This finding has a crosscutting aspect in the area of human performance associated with the work practices component

because the licensee failed to ensure personnel do not proceed in the face of uncertainty or unexpected circumstances.

Inspection Report# : [2010003](#) (*pdf*)

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## Emergency Preparedness

**Significance:**  Mar 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Emergency Action Level Declaration.**

The inspectors identified a noncited violation of 10 CFR 50.47(b)(4) for the failure of operations personnel to adequately implement the emergency plan. Specifically, on March 22, 2010, leakage from the packing of a main pressurizer spray valve at a rate of 12 gpm into the reactor drain tank was incorrectly diagnosed as “unidentified leakage”. This led operations personnel to declare a Notification of Unusual Event when the emergency action thresholds for this emergency classification level had not actually been met. The licensee has taken action to train operations personnel on leakage diagnosis and classification to restore compliance and entered this issue into the licensee's corrective action program as Palo Verde Action Request 3484532.

The finding was more than minor because it adversely affected the Emergency Response Organization performance attribute of the Emergency Preparedness Cornerstone and affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Manual Chapter 0609 Appendix B, "Emergency Preparedness Significance Determination Process," Sheet 2, the finding was determined to have very low safety significance because the actual event implementation problem was associated with a Notice of Unusual Event. This finding has a crosscutting aspect in the area of human performance associated with resources component because the licensee failed to ensure training of personnel was adequate to assure consistent interpretation of the emergency action levels.

Inspection Report# : [2010003](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## 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*)

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