

Palo Verde 1

2Q/2010 Plant Inspection Findings

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*)

Significance:  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedures to Diagnose and Mitigate a Loss of Instrument Air to the Containment

A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure of operations personnel to adequately establish and implement procedures associated with a loss of instrument air to containment. Specifically, on December 3, 2009, the alarm response and abnormal operating procedures available to the Unit 3 control room operating staff were inadequate to consistently diagnose and mitigate a loss of instrument air to containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request (CRDR) 3411457.

The performance deficiency associated with this finding involved the failure of operations personnel to adequately establish and implement alarm response and abnormal operating procedures associated with a loss of instrument air to containment. The finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events Cornerstone and affects the cornerstone objective of limiting 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 the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues.

Inspection Report# : [2009005](#) (*pdf*)

Mitigating Systems

Significance:  Dec 31, 2009

Identified By: NRC

Item Type: VIO Violation

Failure to Establish Adequate Procedures to Control Potential Tornado Borne Missile Hazards Near the Essential Spray Ponds

The inspectors identified a cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to establish adequate procedures to ensure evaluation and approval of transient missile hazards that have an effect on the operability of the essential spray ponds. Specifically, since January 15, 1997, civil engineering personnel failed to develop an adequate procedure to verify missile density criteria are not exceeded to ensure operability of the essential spray ponds during severe weather. Due to the licensee's failure to restore compliance from the previous NCV 05000528/2008004-04 within a reasonable time, this violation is being cited in a Notice of Violation consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the licensee's corrective action program as CRDR 3397839.

The finding is more than minor because it is associated with the external factors attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability 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 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 has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because appropriate corrective actions were not taken to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2009005](#) (*pdf*)

Significance:  Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedures Results in Loss of Ventilation to Safety-Related Equipment

A self-revealing noncited violation of Technical Specification 5.4.1.a, "Procedures," was identified for failure of fire protection personnel to adequately implement a functional test procedure. Specifically, on September 21, 2009, fire protection personnel failed to correctly implement procedural steps resulting in the inadvertent actuation of fire dampers in the Unit 1 control building ventilation system during functionality testing of the CO2 fire suppression system. This issue was entered into the licensee corrective action program as Palo Verde Action Request 3381290.

The finding is more than minor because it is associated with the human performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability, availability 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 has a crosscutting aspect in the area of human performance associated with work practices because work control activities did not use human error prevention techniques, such as self-checking or peer-checking, so that work activities are performed safely [H.4(a)].

Inspection Report# : [2009004](#) (*pdf*)

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Ineffective Corrective Actions for Vaults Containing Station Blackout Cables

The team identified a noncited violation of very low safety significance for failure to effectively implement the corrective action requirements of Regulatory Guide 1.155, "Station Blackout," Appendix A, Criterion 8, "Corrective Action," which were adopted by the licensee in order to meet 10 CFR 50.63, "Loss of All Alternating Current." Although the licensee started a vault monitoring program for water intrusion in vaults with electrical cables in 2003, the effort to prevent exposure of medium voltage cables to submerged conditions has been ineffective for certain vaults that contain the 15kV station blackout generator output cables. Additionally, there are 27 splices in these cables which have contributed to cable test failures in previous meggar resistance tests that, in some cases, required splice replacement in order to pass resistance tests. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3350712, 3350713, 3350939, and 3352858.

This finding is more than minor because it is associated with the design control and equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, 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 an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was reviewed for crosscutting aspects and none were identified.

Inspection Report# : [2009008](#) (pdf)

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform an Adequate Operability Evaluation for the Condensate Storage Tank

The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to perform an adequate operability evaluation for the condensate storage tank as required by site procedures. Specifically, upon discovery of the condition, the licensee performed an immediate operability determination evaluation based on concerns with the capability of the loop seal to provide protection from vacuum conditions. Subsequently, the licensee performed additional assessments of their overall program which included the specified operability evaluation in a component design bases review and closure of a confirmatory action letter and failed to identify the inadequacy. During the inspection, the team reviewed the operability determination and identified that the licensee failed to consider or identify concerns with the ability of the condensate storage tank pressure relief valves to operate after a design basis earthquake. The licensee entered this issue into their corrective action program as Palo Verde Action Request 3353683.

This finding is more than minor because it is associated with the protection against external events (seismic) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, 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 an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program since the licensee failed to properly evaluate for operability.

Inspection Report# : [2009008](#) (pdf)

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate Vendor Information for Reactor Trip Breakers

The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with programmatic implications for the licensee's failure to follow site procedures and incorporate updated vendor information for the reactor trip breakers. Specifically, the licensee failed to incorporate an updated revision of the maintenance program manual and at least two technical bulletins from the reactor trip breaker vendor. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3354252 and 3355082.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, 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 an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience since the licensee failed to implement changes to station processes, procedures, equipment, and training programs.

Inspection Report# : [2009008](#) (pdf)

Barrier Integrity

Significance:  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)

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*)

Occupational Radiation Safety

Public Radiation Safety

Significance: SL-IV Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Periodically Update the UFSAR

The inspectors identified a noncited violation of 10 CFR 50.71 “Maintenance of Records,” because the licensee failed to update their updated final safety analysis report with submittals that include the effects of a change made to the facility. Specifically, the licensee built the old steam generator storage facility on the owner controlled area for long-term radwaste storage of six decommissioned steam generators and three reactor vessel heads and failed to update the updated final safety analysis report to include these changes to the facility and all safety analyses and evaluations performed. This issue was entered in the licensee’s corrective action program as CRDR 3398042.

This issue was dispositioned using traditional enforcement because it had the potential for impacting the NRC’s ability to perform its regulatory function. The finding is more than minor because it has a material impact on licensed activities in that the six decommissioned steam generators and the Unit 2 reactor vessel head, with a significant radioactive source term have been relocated from the plant radiological controlled area to the owner controlled area. In addition, the radwaste management program was affected because the licensee determined that this low-level radwaste facility will store these large components until the site is decommissioned. The finding is characterized as a Severity Level IV, noncited violation in accordance with NRC Enforcement Policy, Supplement I, and was treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This finding was reviewed for crosscutting aspects and none were identified because the performance deficiency is not indicative of current performance.

Inspection Report# : [2009005](#) (*pdf*)

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

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