Palo Verde 2
3Q/2010 Plant Inspection Findings

Initiating Events

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: 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)*

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)*

Barrier Integrity

Significance: Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Maintain Containment Closure Capability
A self-revealing noncited violation of Technical Specification 5.4.1.a, "Procedures," was identified for the failure of maintenance personnel to maintain containment closure capability as required by Procedure 70DP-0RA01, "Shutdown Risk Assessments." Specifically, on October 8, 2009 maintenance personnel designated for emergency closure of the containment equipment hatch left containment to attend a safety briefing for more than four hours before they returned to perform their required duties. This issue was entered into the licensee's corrective action program as PVAR 3389284.

The performance deficiency associated with this finding involved the failure of maintenance personnel to follow the requirements of Procedure 70DP-0RA01, "Shutdown Risk Assessments", and ensure a containment closure team was in containment and capable of closing the containment equipment hatch within 30 minutes. 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," the finding was determined to be a type B finding because it affected only large early release frequency, not core damage frequency, at shutdown. A phase 2 analysis using Table 6.4, "Phase 2 Risk Significance-Type B Findings at Shutdown," was performed with the following considerations: the plant was in cold shutdown with the reactor coolant system vented, steam generators not available, and within eight

days of shutdown, the condition existed for less than eight hours, and there was mitigation equipment out of service. The senior reactor analyst determined that that the finding has very low safety significance (Green) based on the short time period that the condition existed, the low probability of a loss of cooling event during this period with two fully-functional trains available, and the time it would have taken to close the hatch was well less than the time until the core would have become uncovered. This finding was determined to have a cross cutting aspect in the area of human performance associated with work control because the licensee failed to appropriately coordinate work activities by incorporating actions to address plant conditions that may affect work activities.
Inspection Report# : 2009005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with High Radiation Area Entry Requirements
A self-revealing noncited violation of Technical Specification 5.7.1, "High Radiation Areas," was identified for the failure of radiological protection personnel to perform a prejob briefing to ensure workers are aware of radiological conditions in a high radiation area as required by the radiation exposure permit. Specifically, on October 20, 2009, nine contract workers were preparing to install an anticontamination sock over the Unit 2 old reactor vessel head, signed onto a radiation exposure permit which allowed access to a high radiation area but failed to receive a brief on the local dose rates surrounding the reactor vessel head by the job coverage radiation protection technician. This issue was entered into the corrective action program as CRDR 3394172.

The finding was more than minor because it was associated with the exposure control attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to properly control access to a high radiation area and had the potential to increase personnel dose. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the finding was determined to have very low safety significance because it was not associated with "as low as reasonably achievable", there was no overexposure, there was no substantial potential for an overexposure; and the ability to assess dose was not compromised. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee's radiation protection staff failed to communicate expectations to contract personnel.
Inspection Report# : 2009005 *(pdf)*

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

Last modified : November 29, 2010