Palo Verde 1
2Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jan 15, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Loop Flow Test Procedure
The team identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Units 1, 2, and 3, respectively, because the licensee had not established criteria for determining when a fire main loop had degraded and had not properly tested all portions of the fire main loop. Specifically, the licensee had not established a differential pressure that would initiate actions to evaluate the cause for a degradation and the licensee had not determined the flow through individual flow paths in their auxiliary and control buildings. The licensee documented these issues in Condition Reports 15 00513 and 16 00686 and initiated actions to correct the procedure and perform the flow test of the individual loops.

The team identified a performance deficiency related to the procedure used to test their fire main loop. Specifically, the licensee had not established criteria for determining a degraded fire main loop and had not properly tested all portions of the fire main loop. This performance deficiency was more than minor because it was associated with the protection against external factors attribute (fire) and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to test the fire main loops inside the control/auxiliary building separately and failure to establish appropriate acceptance criteria affected the ability to demonstrate the continued capability to deliver adequate flow and pressure to the fire suppression systems.

The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” Attachment 4, “Initial Characterization of Findings,” dated June 19, 2012. The inspectors determined that an IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated September 20, 2013, review was required as the finding affected the ability to reach and maintain safe shutdown conditions in case of a fire. Using IMC 0609, Appendix F, Attachment 1, “Fire Protection Significance Determination Process Worksheet,” dated September 20, 2013, the finding was screened as a Green finding of very low safety significance in accordance with Task 1.4.7, “Fire Water Supply,” Question A. The inspectors determined that although the licensee failed to test portions of the fire main system in accordance with code requirements, the inspectors determined that at least 50 percent of required fire water capacity would be available based on the testing is done with only one fire pump in service and there are three available fire pumps. Since these fire main loops inside the control/auxiliary building had not been monitored for pressure changes when flow tested since initial testing and nothing caused the licensee to reevaluate the test, the team determined that this failure did not reflect current performance.

Inspection Report# : 2015008 *(pdf)*

Mitigating Systems

Significance: G Mar 24, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Operations Department Failure to Document Conditions Adverse to Quality in Condition Reports
The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee's failure to document conditions adverse to quality in the corrective action program. Previous similar failures to initiate condition reports led to, or contributed to, two significant conditions adverse to quality over the last 15 months.

The failure of the operations department to document identified conditions adverse to quality in condition reports, as required by Procedure 01DP-0AP12, "Condition Reporting Process," Revision 23, was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, on two other occasions since January 2015, failures by operations personnel to write condition reports for equipment-related problems resulted in or contributed to significant conditions adverse to quality. This performance deficiency demonstrated a continued gap within Palo Verde Nuclear Generation Station's operations department in understanding condition report initiation criteria. This performance deficiency is associated with the mitigating systems cornerstone. Using NRC Inspection Manual Chapter 0609, Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not affect the operability or functionality of a mitigating structure, system, or component. This finding has a resolution cross-cutting aspect in the area of problem identification and resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance (P.3)

Inspection Report# : 2016008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Apr 20, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Implement High Radiation Area Controls in an Area with a Dose Rates Greater Than 1 rem per hour
The inspectors reviewed a Green, self-revealing, non-cited violation of Technical Specification 5.7.2, which was caused by the licensee's failure to control a high radiation area with radiation levels greater than 1 rem per hour in the Unit 1 containment. A radiation protection technician received an unexpected dose rate alarm while conducting surveys on piping in the 87-foot elevation of the 2B reactor coolant pump bay area near a high efficiency particulate air unit in containment. Licensee personnel corrected the error by guarding the area, posting the area, and changing the pre-filters in the adjacent portable a high efficiency particulate air units to reduce the dose rates. This issue was entered into the licensee's corrective action program as Condition Reports 16-06515 and 16-07479.
The inspectors determined that the failure to identify a locked high radiation area through timely surveys and adequate

a high efficiency particulate air maintenance procedures that could have revealed changing radiological conditions was a performance deficiency. The performance deficiency was more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process (exposure control) and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation because licensee personnel did not implement barriers intended to prevent workers from receiving unexpected dose. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined the violation had very low safety significance (Green) because: (1) it was not an as low as is reasonably achievable finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. This finding has a cross-cutting aspect in the human performance area, associated with the resources component, because the licensee leaders failed to ensure that personnel, equipment, and procedures were available and adequate to support nuclear safety. Specifically, the licensee failed to ensure that procedures were adequate to ensure radiation levels around portable high efficiency particulate air units were monitored to evaluate changing radiological conditions in a timely manner such that hazards were appropriately controlled [H.1].
Inspection Report# : 2016002 *(pdf)*

Significance: G Apr 20, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Engineering and Radiological Controls Resulting in a Unit 1 Containment Building Airborne Radioactivity Event with Unplanned Intakes
The inspectors identified a non-cited violation of 10 CFR 20.1701 due to the licensee's failure to implement adequate processes and engineering controls necessary to reduce airborne radioactivity and prevent internal dose to workers in Unit 1. On April 20, 2016, inspectors identified that procedures and instructions for monitoring high efficiency particulate air ventilation filter unit to prevent worker exposures to radiation and airborne radioactivity were being inadequately implemented. On April 21, 2016, the licensee's inadequate engineering and radiological controls during a high efficiency particulate air operations caused an airborne radioactivity event in containment, resulting in the evacuation of 41 potentially contaminated workers of whom 8 had measurable intakes of radioactive material. The licensee's immediate corrective actions included stopping work in the Unit 1 containment, evacuating workers in containment, assessing workers for external and internal contamination, and investigating the cause and source of the contamination event. This matter was placed in the licensee's corrective action program as Condition Reports16-06499 and 16-06578 and the licensee initiated a root cause investigation.
The inspectors determined that the failures to implement adequate engineering and radiological controls to reduce airborne radioactivity during a high efficiency particulate air unit operations in accordance with 10 CFR 20.1701 and radiation protection procedures were performance deficiencies. The performance deficiencies were more than minor because they were associated with the Occupational Radiation Safety Cornerstone attribute of program and process (exposure control) and adversely affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. This was evident by the Unit 1 containment airborne radioactivity event on April 21, 2016, that resulted in at least eight workers with unplanned intakes. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined the finding had very low safety significance (Green) because: (1) it was not an as low as is reasonably achievable planning and controls finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The inspectors concluded that the finding has a cross-cutting aspect in the human performance area, associated with the resources component, because the licensee leaders failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, procedures and radiation exposure permits failed to have adequate instructions for ensuring a high efficiency particulate air filter loading and dose rates were monitored to prevent overloading, and safe handling of loaded a high efficiency particulate air filters [H.1].
Inspection Report# : 2016002 *(pdf)*

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2016