

Palo Verde 2

4Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Untimely Corrective Action for Condition Adverse to Fire Protection

The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to take timely corrective actions for a condition adverse to fire protection. Specifically, in 2004, the licensee identified that line thermal detection for 13.8 Kilo Volt cabling in three fire areas were not in conformance with vendor technical documents. Since then, corrective actions for the condition failed to be implemented as scheduled. After several spurious actuations of the fire protection system, the licensee installed the appropriately rated wire in Unit 1 and will install the appropriate detection in Units 2 and 3, respectively, at the next available outage. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4201472.

The failure to take timely corrective actions for a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external factors of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was determined to be a low degradation of the fixed fire protection system and screens to green using step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to prioritize corrective actions for conditions adverse to fire protection [P.1(c)].
Inspection Report# : [2012004](#) (*pdf*)

Significance: G Mar 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Assess and Manage Risk Prior to Troubleshooting on 4.16 kV Bus Supply Breaker Hand Switch

The inspectors reviewed a self-revealing non-cited violation of 10 CFR 50.65a(4), for the licensee's failure to assess and manage an increase in risk prior to planned maintenance activities. Specifically, on January 25, 2012, the licensee failed to include the potential to deenergize a 4.16 kV bus when working on a control room hand switch in the risk assessment for Unit 2, resulting in an unplanned reactor power cutback. The licensee plans to revise procedures, as a corrective action, to develop and implement a structured operational risk assessment process for use by the senior reactor operator when authorizing un-scheduled work to commence in the field. The licensee entered this issue into the corrective action program as Palo Verde Action Request (PVAR) 4036588.

The licensee's failure to assess and manage an increase in risk prior to planned maintenance activities was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affects the equipment performance attribute of the Initiating Events Cornerstone and its objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Because the licensee utilizes a qualitative risk assessment for these maintenance activities, Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used to determine the risk significance of the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance (Green) because it did not result in any additional loss of defense in depth systems,

and an assessment by the senior reactor analyst determined the increase in risk due to the initiating event was very small. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure complete and accurate procedures and work packages are adequate to assure nuclear safety [H.2(c)].

Inspection Report# : [2012002](#) (pdf)

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Obtain NRC Approval for a Change Adverse to Safe Shutdown

The inspectors identified a Severity Level IV non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3, respectively, for the licensee's failure to maintain the reactor coolant pumps in compliance with fire protection requirements. Specifically, the licensee failed to evaluate changes to a maintenance procedure that resulted in the addition of oil in excess of the capacity of the oil collection system, which was a condition adverse to fire protection. The licensee has removed the excess oil from Unit 3 reactor coolant pumps and is evaluating further corrective actions for the issue. The licensee entered this issue into the licensee's corrective action program as PVAR 3305719.

The failure to perform a fire protection program impact evaluation of changes to a maintenance procedure to add oil to the reactor coolant pumps was a performance deficiency. The performance deficiency is more than minor and therefore a finding, because it adversely affected the external factors attribute of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," the condition represented a low degradation of the fire protection program element of fire prevention through control of combustible materials because of the over flow of oil spilling out of the reservoir. However, the problem impacted the NRC's ability to perform its oversight function and was assessed using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, dated July 12, 2011, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the Significance Determination Process as having very low safety significance.

Inspection Report# : [2012002](#) (pdf)

Mitigating Systems

Significance:  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify and Correct a Condition Adverse to Fire Protection

The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to identify and correct a condition adverse to fire protection. Specifically, on November 19, 2012, inspectors questioned operations personnel and identified that operators did not know the locations of sound powered telephone equipment, were unfamiliar with their use, and unfamiliar with procedural guidance for their use. This is a communications device used for post-fire safe shutdown credited in the fire protection program and emergency plan. The lack of familiarity with location and use of these communication devices would have adversely affected operations personnel response to an emergency. The licensee completed a self-assessment of emergency preparedness communication on October 31, 2012, and did not identify these weaknesses. The licensee immediately issued a night order and informed operations personnel of the location of the sound powered phones and procedural guidance. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request 4294407.

The failure to identify and correct a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability,

and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was determined to be a low degradation of the post-fire safe shutdown program element and screens to Green using Step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the self and independent assessments component because the licensee failed to conduct a self-assessment of sufficient depth, that was comprehensive and self-critical, which failed to recognize that operator knowledge was lacking for the use of some communication device [P.3(a)].

Inspection Report# : [2012005](#) (pdf)

Significance: G Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Licesned Operator Examination Integrity

The inspectors identified a non-cited violation of 10 CFR 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.

The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)]

Inspection Report# : [2012005](#) (pdf)

Significance: G Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct Scupper Obstruction

The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," for the failure of the licensee to correct a condition adverse to quality. Specifically, on November 7, 2011, after the inspectors notified the licensee about scupper obstruction on safety related building roofs, the licensee failed to enter this issue into the corrective action program and take appropriate corrective actions to remove the obstructions. The licensee rediscovered this condition during post Fukushima walkdowns in response to a Request for Information pursuant to 10 CRF 50.54(f), removed the obstructions and established walkdowns to ensure the scuppers remained unobstructed. The licensee has entered the issue into the corrective action program as PVAR 4255561.

The inspectors concluded that the failure of the licensee to correct a condition adverse to quality was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external events of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The inspectors concluded the finding was of very low safety-significance (Green) because the finding did not result in the complete loss of a safety function due to an external event. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to have a low threshold for entering issues into the corrective action program [P.1(a)].

Inspection Report# : [2012004](#) (*pdf*)

Significance:  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Operability Determination for ARD Relay Failures

The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. After a ventilation damper failed to close during a functional stroke test, plant personnel did not consider previous operability determinations and failed to provide supporting analysis to confirm there was no reduction in reliability of ARD relays. This issue is captured in the corrective action program as PVAR 4255816. The licensee has successfully cycled all ARD relays which could be performed during at-power operations, scheduled testing for remaining relays, and initiated a design change document that will determine a permanent substitute for the ARD660UR DC relays.

The failure of the operations and engineering personnel to follow Procedure 40DP-9OP26 to evaluate the operability of a structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." Inspectors concluded that the finding was of very low safety-significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the results of the apparent cause evaluation for the first three ARD relay failures to the appropriate operations personnel [H.1(c)].

Inspection Report# : [2012004](#) (*pdf*)

Significance:  Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Comply with Technical Specifications

The inspectors identified a Green non-cited violation of Technical Specification Limiting Condition for Operation (LCO) 3.0.3 for the failure of plant personnel to place Unit 2 in Mode 3 within 7 hours after discovering a condition not permitted by Technical Specifications. Specifically, following the failure of essential ventilation dampers during a surveillance test that rendered the train B DC equipment, inverters, and ESF switchgear inoperable, operators exceeded the Technical Specification time requirements before restoring operability of the equipment. The licensee initiated corrective actions to evaluate equipment operability following essential ventilation system failures, revise procedural guidance and implement compensatory measures to ensure the supported equipment remains capable of

performing its required safety functions in the event of essential ventilation system failures. The licensee entered the issue into the corrective action program as Palo Verde Action Request 4033786.

The failure of the licensee to comply with Technical Specifications is a performance deficiency. The resident inspectors performed the initial significance determination for the essential ventilation damper failures using NRC Inspection Manual Chapter 0609, Attachment 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power." The finding screened to a detailed analysis because it involved an actual loss of safety function of a single train of equipment for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was $9E-8$ /year. The dominant core damage sequences included: loss of offsite power sequences; failure of remaining safety related train A ventilation; failure of operators to provide alternate room cooling; and the failure of the turbine driven auxiliary feedwater pump. The very short exposure period helped to minimize the significance. The inspectors did not assign a cross-cutting aspect to this finding because the inadequate procedural guidance for responding to essential ventilation system failures was made in 1991 and is not reflective of present performance.

Inspection Report# : [2012003](#) (pdf)

Significance: G Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Post Maintenance Test of the Diesel Fuel Oil Transfer Pump

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to assure that testing to demonstrate that the diesel fuel oil transfer pumps would perform satisfactory in service was performed in accordance with written test procedures. Specifically, on April 17, 2011, the licensee failed to conduct post maintenance testing of the Unit 2 diesel generator A fuel oil transfer pump in accordance with the licensee's inservice test procedure. This issue is captured in the corrective action program as Palo Verde Action Request 4161870. Palo Verde subsequently performed successful inservice testing of the Unit 2 A diesel generator fuel oil transfer pump.

The inspector determined that the failure to perform testing of safety-related plant diesel fuel oil transfer pumps in accordance with written procedures following maintenance activities is a performance deficiency. The finding was more than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and it adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, the inspectors determined that the finding had very low safety significance (Green) because it 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. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with work practices because the licensee did not communicate human error prevention techniques such as self and peer checking to ensure that the appropriate pump retest was specified in the post maintenance testing instructions [H.4(a)].

Inspection Report# : [2012003](#) (pdf)

Significance: ??? Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Complete and Accurate Information Regarding Safety Related Roof Drainage Capabilities

The inspectors identified a Severity Level IV violation of 10 CFR 50.9, "Completeness and Accuracy of Information," for the failure of the licensee to provide complete and accurate information in all material respects in response to Generic Letter 88-20, Supplement 4. Specifically, the licensee asserted that roofs are equipped with roof drains and scuppers as backup. As a result, the licensee concluded roof ponding considerations were not applicable to the Palo Verde Nuclear Generating Station site. Inspectors determined that there are no roof drains installed. The licensee initiated corrective actions to provide an accurate depiction of the roof drainage capabilities to the NRC. This finding has been entered into the licensee's corrective action program as Palo Verde Action Request 3952605.

The failure of the licensee to provide complete and accurate information for safety related building roof drainage was a performance deficiency. The Significance Determination Process is not suited to assess the significance of the performance deficiency because it affected the ability of the NRC to perform its regulatory oversight function and as such, it was assessed using traditional enforcement. This issue was determined to be a Severity Level IV violation in accordance with NRC Enforcement Policy examples provided in Section 6.9. No crosscutting aspect was assigned because the performance deficiency was assessed using traditional enforcement.

Inspection Report# : [2012003](#) (*pdf*)

Significance: G Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Corrective Action Program Procedure

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after Arizona Public Service failed to follow station procedures and enter issues into the corrective action program. Specifically, the inspectors identified that Palo Verde Action Requests had not been created, contrary to the requirements of procedure 01DP-0AP12, “Palo Verde Action Request Processing,” when significant delays in completing maintenance on safety related components occurred. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 4078014. The licensee initiated corrective actions to conduct training on the requirements to enter issues into the corrective action program and is evaluating further corrective actions.

The failure of plant personnel to enter issues into the corrective action program was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated under the Significance Determination Process, Inspection Manual Chapter 0609.04, “Phase I – Initial Screening and Characterization of Findings,” to be of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to define and effectively communicate expectations to maintenance department personnel regarding the prompt initiation of Palo Verde Action Requests into the corrective action program [H.4(b)].

Inspection Report# : [2012002](#) (*pdf*)

Significance: G Mar 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Promptly Identify and Correct a Condition Adverse to Quality Associated with Essential Chilled Water System Gas Accumulation

The inspectors reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units. Specifically, more frequent biocide additions to the essential chilled water systems resulted in significant bacterial off gassing and voiding in the systems in all three units. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 3850945, initiated corrective actions to vent the systems and monitor for gas accumulation, and is evaluating further corrective actions for the issue.

The inspectors determined the failure of the licensee to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of

systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to trend and assess information from the corrective action program and other assessments to identify this common cause problem [P.1(b)].

Inspection Report# : [2012002](#) (*pdf*)

Significance: G Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Functionality Assessment for Safety-Related Buildings

The inspectors identified a non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide a technical justification for continued operation of a degraded structure, system, or component. Specifically, after identifying a potential for insufficient drainage for safety related building roofs, plant personnel failed to perform a functional assessment and failed to assess the non-conforming condition to the current licensing basis. The licensee performed the functional assessment and later revised the assessment after the inspectors challenged assumptions used in the assessment. The licensee entered the issue into the corrective action program as Palo Verde Action Requests 3958463 and 3952605.

The failure of the operations and engineering personnel to evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of decision making because the licensee failed to use conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].

Inspection Report# : [2012002](#) (*pdf*)

Significance: G Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Translate Design Basis Into Drawings and Calculations for Safety-related Roof Drainage Capability

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of the licensee to translate the safety-related roof drainage capability design basis into drawings and calculations. Specifically, inspectors determined that there were no roof drains installed, although the plant was designed to have roof drains as the primary means for removing water from safety-related building roofs, and the licensee could not provide any design documentation to support adequacy of the roof drainage capacity without roof drains. The licensee performed an engineering evaluation to support the structural integrity of the safety-related buildings in the event of a design basis probable maximum precipitation event and is evaluating further corrective action. The licensee entered the issue into the corrective action program as PVARs 3958463 and 3952605.

The inspectors concluded that the failure of the licensee to translate design basis information into drawings for safety-related building roof drainage was a performance deficiency. The inspectors concluded the performance deficiency

was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the performance deficiency under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. No cross-cutting aspect was assigned because the performance deficiency was not indicative of current performance.

Inspection Report# : [2012002](#) (pdf)

Barrier Integrity

Significance:  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Pressure Testing of the Reactor Vessel Flange Leak-Off Lines

Inspectors identified a non-cited violation of 10 CFR 50.55a(g)(4) involving the licensee's failure to perform a system pressure test of the reactor vessel flange leak off-line of Units 1, 2, and 3 in accordance with the applicable edition of Section XI of the ASME Code. Contrary to the above, prior to October 10, 2012, the licensee failed to perform the required pressure test of the reactor vessel flange seal leak-off line for all three units. Specifically, the licensee failed to implement the ASME Code, Section XI, Class 2 requirements for pressure retaining components as provided by Article IWC-5220, "System Leakage Test." The licensee entered the finding into their corrective action program as Palo Verde Action Request 4269674.

The inspectors determined that the licensee's failure to perform a pressure test of the reactor vessel flange leak-off line was a performance deficiency. The performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of systems, structures and components and barrier performance, and adversely affects the cornerstone objective to provide a reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Attachment A, "The Significant Determination Process (SDP) for Findings At-Power," the finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, and did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function. This issue did not have a cross-cutting aspect associated with it because it is not indicative of current performance

Inspection Report# : [2012005](#) (pdf)

Significance:  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Tracking of a Functional Assessment for Spent Fuel Pool Heat Load

The inspectors identified a non-cited violation of 10 CFR 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.

The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the

availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)]

Inspection Report# : [2012005](#) (pdf)

Emergency Preparedness

Significance:  Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Technical Support Center Diesel Generator Not Restored Following Maintenance

A self revealing Green non-cited violation of 10 CFR 50.47(b)(8) was identified for the failure to maintain adequate facilities to support emergency response. Specifically, the licensee found the technical support center battery disconnect switch had not been restored following maintenance activities. This configuration would have rendered the diesel generator unable to start automatically as designed in the event of a loss of off-site power. The licensee initiated immediate corrective actions to restore the technical support center diesel generator to a functional configuration and has begun implementation of a more formal process for component configuration verification of critical technical support center equipment. The licensee has entered this issue into their corrective action program as Palo Verde Action Request 4165625.

The failure to follow Procedure 40OP-9NG01 for performing a functional test of 480V switchgear following maintenance activities is a performance deficiency. This performance deficiency was more than minor because it is associated with the Emergency Preparedness Cornerstone attribute of facilities and equipment and it adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green) because the degraded planning standard function did not result in the loss of technical support center functionality for longer than 7 days. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources. Specifically, the licensee's work control procedures did not include critical technical support center systems to ensure that technical support center configuration control was maintained commensurate with its significance [H.2(c)]

Inspection Report# : [2012005](#) (pdf)

Significance:  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform 50.54(q) Evaluation

Inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.54 (q), "Conditions of licenses," and an associated Green finding for the licensee's failure to perform an appropriate design scope change, which resulted in the reduction in effectiveness of the emergency plan. Specifically, on May 19, 2011, the licensee completed a modification to revise protective area lightning power sources and removed ground fault protections on a circuit breaker attached to the bus, which powers the technical support center. This change created a condition that would

remove power to the technical support center and prevent emergency plan required back up power from being able to power the bus. On August 10, 2012, a lighting fault caused a complete loss of power to the technical support center, demonstrating that this change decreased the effectiveness of the emergency plan. On September 26, 2012, the licensee reactivated the ground fault protection for the circuit breaker and established compensatory measures to restore power to ensure technical support center staffing will not be challenged. The licensee entered this into their corrective action program as condition report disposition request 4230209.

The failure to perform an appropriate design scope change was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the facilities and equipment attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green). Additionally, the violation of 10 CFR 50.54 (q) impacted the ability of the NRC to perform its regulatory oversight function and was dispositioned using traditional enforcement. This violation was determined to be a Severity Level IV violation per Section 6.6 of the NRC Enforcement Policy because the violation was not associated with licensee's ability to meet or implement any regulatory requirement related to assessment or notification. Although the regulatory requirement could be implemented during the response to an actual emergency, the implementation would be degraded. The inspectors determined this finding has a crosscutting aspect in the area of human performance associated with the work practices component because the licensee failed to ensure supervisory management and oversight of contractors such that nuclear safety is supported [H.4.(c)].

Inspection Report# : [2012004](#) (pdf)

Significance:  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Declare an Unusual Event

The inspectors identified a Green non-cited violation of 10 CFR 50.54(q) for the failure of operations personnel to adequately implement the emergency plan. Specifically, on August 26, 2012, auxiliary operators felt vibratory ground motion inside the protected area at 12:31pm and again at 1:58pm. The United States Geological Survey (USGS) confirmed that two earthquakes, of magnitude 5.3 and 5.5 respectively, occurred at those times in the area of the plant. Plant operators did not declare an Unusual Event in accordance with the emergency plan. The licensee entered the issue into the corrective action program as PVAR 4255819 and initiated an apparent cause evaluation to identify the cause and corrective actions.

The failure to implement the emergency plan and declare an Unusual Event was a performance deficiency. The performance deficiency was more than minor and therefore a finding, because it 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," Attachment 1, the finding was determined to have very low safety - significance (Green) because the actual event implementation problem was associated with an Unusual Event. 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 proper implementation of the emergency plan [H.2.(b)].

Inspection Report# : [2012004](#) (pdf)

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure in the Choice of Protective Actions Consistent with Federal Guidance

The inspectors identified a non-cited violation of 10 CFR 50.47(b)(10) for the licensee's failure to develop and have in-place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Specifically, the licensee's procedure EP-0905, "Protective Actions," Revision 2, did not implement the

guidance of EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," which states, in part, that evacuation is rarely justified when the projected dose does not exceed 1 rem (Total Effective Dose Equivalent). This issue is documented in the licensee's corrective action program as Condition Report Disposition Request-3403829.

The licensee's automatic process that extended protective action during plant conditions and changes in wind direction without considering radiation dose was identified as a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely affects the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency, and is associated with the cornerstone attributes of emergency response organization performance and procedure quality. This finding was determined to be of very low safety significance because it was a failure to comply with NRC requirements, was associated with risk significant planning standard 10 CFR 50.47(b) (10), and was not a risk significant planning standard functional failure or a planning standard degraded function. The finding was not a functional failure or degraded planning standard function because appropriate protective action recommendations for the public would have been made for all areas where protective action guides were exceeded. The finding is related to the corrective action program component of the problem identification and resolution cross-cutting area because the licensee failed take appropriate corrective actions to address the safety issue in a timely manner [P1.d].

Inspection Report# : [2012002](#) (*pdf*)

Occupational Radiation Safety

Public Radiation Safety

Significance:  Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Verify a Transferee was Licensed to Receive Byproduct Material

The inspector identified a non-cited violation of 10 CFR 30.41 because the licensee failed to verify a transferee was authorized to receive byproduct material before transferring it. This finding was entered in the licensee's corrective action program as CRDR 4136342.

The failure to verify a transferee is licensed to receive the type, form, and quantity of byproduct being transferred is a performance deficiency. The significance was more than minor because radioactive material was actually transferred to an entity which was not licensed to receive the material. Thus, the performance deficiency was associated with the cornerstone attribute of Program & Process and adversely affected the associated cornerstone objective because the release of radioactive material to unlicensed entities could cause unplanned radiation dose or environmental contamination. Using Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process," December 12, 2008, page D 13, the inspectors determined the violation had very low safety significance because the violation involved a radioactive material control issue, was not a transportation issue, and did not result in a dose to public of greater than 0.005 rem. This finding had a crosscutting aspect in the human performance area, work practices component, because personnel did not follow procedures [H.4(b)].

Inspection Report# : [2012003](#) (*pdf*)

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

Significance: N/A May 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Request an Experience Waiver for a Reactor Operator License Applicant

An NRC-identified non-cited violation of 10 CFR 50.9, “Completeness and Accuracy of Information,” was identified for failure to request an experience waiver on NRC Form 398 for a Reactor Operator license applicant who did not have three years of responsible nuclear power plant experience as required by NUREG 1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). Upon discovery, the facility licensee submitted a revised NRC Form 398, which included the waiver request, and entered this issue into their corrective action program as Condition Report 4080143.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC’s ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, “Violation Examples: Licensed Reactor Operators.” This section states, “Severity Level IV violations involve, for example ... cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator... .” Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.

Inspection Report# : [2012301](#) (*pdf*)

Significance: N/A May 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference

An NRC-identified non-cited violation of 10 CFR 50.9, “Completeness and Accuracy of Information,” was identified for submitting a final written exam question to the NRC which was identified and approved as “Closed Reference,” but administered by the licensee as “Open Reference” by supplying the applicants with an unapproved Technical Specification. On evaluation, the NRC determined that it would not have approved the question had it been properly identified as open-reference on submittal, because the reference made the question a direct lookup and the information in the reference was of a nature that licensed operators are expected to have memorized. No licensing decisions were affected and the facility licensee entered this issue into their corrective action program as Condition Report 4144197.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC’s ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, “Violation Examples: Licensed Reactor Operators.” This section states, “Severity Level IV violations involve, for example ... cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator... .” The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.

Inspection Report# : [2012301](#) (*pdf*)

