

Palo Verde 2

3Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO REMOVE PIPE SUPPORT LEADS TO RCS PRESSURE BOUNDARY LEAK

Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for the failure to implement a modification. The modification should have removed a pipe support associated with a high pressure safety injection system drain line. The failure to remove the pipe support, combined with high vibrations, resulted in a reactor coolant system pressure boundary leak from a cracked socket weld upstream of high pressure safety injection header drain Valve 1-P-SIA-V056. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2669474.

The finding is greater than minor since it is associated with the equipment performance and design control attributes 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. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because assuming worst case degradation, the leak would not have exceeded the Technical Specification limit for identified reactor coolant system leakage and mitigating systems were not affected.

Inspection Report# : [2004004\(pdf\)](#)

Significance: G Aug 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURS FOR OPERATION OF THE SPENT FUEL HANDLING MACHINE

The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with a failure to operate the spent fuel handling machine in accordance with Procedure 78OP-9FX03, "Spent Fuel Handling Machine," Revision 16. There were three instances of this: (1) On October 4, 2002, the spent fuel handling machine operator moved fuel assemblies of two differing weights and was not cognizant of design differences of the fuel assemblies and did not stop fuel movement when the load was greater than 50 lbs. different from expected; (2) On October 4, 2002, the spent fuel handling machine operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly, and (3) later on October 4, 2002, another spent fuel handling operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly. In both Examples (2) and (3), the operators failed to verify the "UP LIMIT" light was on and failed to verify the hoist indicator was at the "UPLIMIT." As a result, in Example (3), the one fuel assembly was damaged. These issues were contrary to Procedure 78OP-9FX03 and resulted in damage to the lower grid assembly of Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products to the environment. The finding is of very low safety significance because all mitigation systems were available during the fuel movement operations and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of human performance.

Inspection Report# : [2004011\(pdf\)](#)

Significance: G Aug 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PRESCRIBE ADEQUATE INSTRUCTIONS FOR ENTRY INTO ABNORMAL OPERATING PROCEDURE, PVNGS PROCEDURE 40AO-9ZZ22, "FUEL DAMAGE," REVISION 2 THROUGH 6

The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with an inadequate abnormal operating procedure. Specifically, the inspectors determined that Palo Verde Nuclear Generating Station Procedure 40AO-9ZZ22, "Fuel Damage," Revisions 1 through 6, were not adequate in that the entry conditions never required operations personnel to enter the procedure and take actions to mitigate the event. Step 1.1 states, in part, "Section 3.0, Irradiated Fuel Damage may be entered when any of the following conditions exist . . . when equipment or component failures result in any of the following: irradiated fuel assembly contacting a solid structure; bubbles emerging from a spent fuel assembly; bent, twisted, or warped spent fuel assembly; or visual damage to spent fuel pin cladding." Since this abnormal operating procedure was never entered, applicable actions were never considered during the Fuel Assembly P1M316 event.

This finding is greater than minor because actions taken in response to fuel handling errors could result in significant fuel cladding damage and

effect the barrier cornerstone. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.

Inspection Report# : [2004011\(pdf\)](#)

Significance: TBD Aug 30, 2004

Identified By: NRC

Item Type: AV Apparent Violation

FAILURE TO PROPERLY INFORM PLANT MANAGEMENT FOLLOWING FUEL HANDLING EVENT

The inspectors identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI. Specifically, the licensee established measures to assure that conditions adverse to quality are promptly identified and corrected in Procedure 90DP-0IP10, "Condition Reporting." Procedure 90DP-0IP10, Revision 15, Step 3.1.2, required that the shift manager be promptly notified if a condition required immediate action to ensure the safety of plant personnel or equipment. Additionally, Procedure 90DP-0IP10, Appendix B, requires verbal notification to the leader and to the appropriate shift manager. The spent fuel handling machine operator failed to notify the shift manager and department leader for fuel operations that he took actions, which he felt were necessary to place the fuel assembly in a "safe" condition. Additionally, it appears that details regarding the seriousness of the incident and steps taken by the spent fuel handling machine operator immediately following the incident were not communicated to appropriate levels of plant management. The failure to notify the shift manager and department leader for fuel operations resulted in an inappropriate organizational response to the Fuel Assembly P1M316 event that did not involve station management in the decision-making process.

This apparent violation was greater than minor because it had an actual impact on management response for damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The safety significance of this finding will be determined pending the outcome of the predecisional enforcement conference.

Inspection Report# : [2004011\(pdf\)](#)

G

Significance: Jul 08, 2004

Identified By: NRC

Item Type: FIN Finding

POOR MATERIAL CONDITION OF THE SPENT FUEL HANDLING MACHINE

The inspectors identified a self-revealing finding of very low safety significance (green) associated with the material condition of the spent fuel handling machine. A number of issues related to material condition, which affected spent fuel handling machine operations, was identified. These included intermittent overload and underload conditions with no identified cause, upender limit switches that often failed or required adjustments during fuel movement, an unreliable hydraulic power unit for the upender machine which occasionally resulted in the upender drifting from the vertical position, and the spent fuel handling machine trolley occasionally stopped for no apparent reason.

This finding is greater than minor because it had an actual impact resulting in damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100.

Inspection Report# : [2004011\(pdf\)](#)

G

Significance: Jul 08, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CORRECTIVE ACTIONS CONTRIBUTED TO DAMAGE TO FUEL ASSEMBLY

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to effectively correct conditions adverse to quality that contributed to the damage to irradiated Fuel Assembly P1M316. Specifically, Criterion XVI states, in part, that ". . . conditions adverse to quality, such as malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." The licensee failed to effectively correct conditions adverse to quality, which included repeated violations of equipment operating procedures and conduct of operations procedures, as well as long-standing degraded material condition of the fuel handling equipment, that ultimately contributed to the damage of irradiated Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.

Inspection Report# : [2004011\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS

A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction valve and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with mispositioned valves and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869.

The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water.

Inspection Report# : [2004003\(pdf\)](#)

G

Significance: Jun 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW HEAVY LOAD MOVEMENT PROCEDURE

A self-revealing noncited violation of Technical Specification 5.4.1.a was identified when personnel failed to follow a maintenance procedure preceding a 12 to 24 inch heavy load drop of a 7000 pound steam generator snubber level plate inside the Unit 2 containment. The drop was due to a series of errors between the engineering contractor and rigging crews. The snubber plate was dropped in the vicinity of reactor coolant and shutdown cooling piping. This issue was entered into the corrective action program as CRDR 2639721.

The finding was greater than minor because it affects the equipment performance and human performance attributes of the initiating events cornerstone objective to limit the likelihood of events that challenge safety functions during shutdown conditions. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," the senior reactor analyst concluded that this finding did not significantly increase the likelihood of losing the residual heat removal function and did not significantly increase the likelihood that systems that could mitigate a loss of residual heat removal function would be degraded. Therefore, this finding is of very low safety significance.

Inspection Report# : [2004003\(pdf\)](#)

G

Significance: May 21, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH AN ADEQUATE PROCEDURE FOR PERFORMING PRESSURIZER SPRAY VALVE MAINTENANCE

NRC inspectors previously identified an unresolved item (URI 05000529/2003004-01) with pressurizer spray valve maintenance. This URI resulted from the NRC review of Licensee Event Report 05000529/2003001-00. Based upon further review during this inspection, the team identified a self-revealing non-cited violation of Technical Specification 5.4.1(a) for failure to establish an adequate procedure for performing pressurizer spray valve maintenance. The procedure was not adequate since the valve failed shortly after maintenance on the valve and valve positioner.

This finding was more than minor since it affected the likelihood of an initiating event to upset plant stability and challenge critical safety functions. Based on the results of an SDP Phase 1 analysis, this finding had very low safety significance (Green) since it did not inhibit the performance of a mitigating system, and did not increase the likelihood of a loss of coolant accident.

Inspection Report# : [2004006\(pdf\)](#)

Mitigating Systems

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Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

UNTIMELY LUBRICATION OF REACH RODS FOR SAFETY-RELATED MANUAL VALVES

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to promptly correct degraded conditions associated with reach rods on safety-related manual valves. The issue involved problem identification and resolution cross-cutting aspects associated with untimely prioritization of work necessary to correct degraded equipment conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2328588.

The finding was greater than minor safety significance because if left uncorrected, it could become a more significant safety concern in that the failure to perform maintenance on reach rod assemblies could result in an inability to operate safety-related manual valves. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and there was not a loss of safety function.

Inspection Report# : [2004004\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

TURBINE DRIVEN AUXILIARY FEEDWATER PUMP GOVERNOR POWER SUPPLY RESISTOR FAILURES

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a significant condition adverse to quality. The adverse condition involved failed resistors in the power supply to the turbine driven auxiliary feedwater pump governor control circuits in Units 2 and 3 that had transportability to Unit 1. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. The finding also involved human performance cross-cutting aspects associated with engineering and maintenance personnel not communicating correct technical information. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2746954.

The finding was greater than minor because if left uncorrected, it could have become a more significant safety concern in that the Unit 1 turbine driven auxiliary feedwater pump could have experienced an unnecessary failure. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function for the auxiliary feedwater system.

Inspection Report# : [2004004\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

REACTOR LEVEL ANOMALY WHILE IN REDUCED INVENTORY

Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate procedure which resulted in an unexpected reactor coolant system level anomaly during the Unit 1 reactor coolant system draindown to hot midloop conditions. Specifically, Procedure 40OP-9ZZ16, "RCS Drain Operations," did not provide reduced drain rates or increased hold points when only the reactor head vent was utilized to support draining evolutions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2695262.

The finding was greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. The inadequate procedure resulted in an actual unexpected level transient while the reactor coolant system was being drained in reduced inventory conditions. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.

Inspection Report# : [2004004\(pdf\)](#)

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Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to assure that significant conditions adverse to quality were promptly identified and corrected. Specifically, maintenance personnel failed to promptly identify that retaining ring slots were not adequately sized to allow the use of the standard lock pins, contributing to the damage to the steam generator nozzle dam diaphragms. Subsequent to the identification, maintenance personnel failed to correct the condition by not implementing the actions recommended by plant engineers. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. That is, this finding was the direct result of licensee personnel's failure to promptly identify and correct a condition adverse to quality. This issue was entered into the licensee's corrective action program as Condition Report/Discrepancy Requests 2686201 and 2686271.

This finding was greater than minor because it is associated with the mitigating systems cornerstone and affects reactor coolant system boundary performance. Specifically, the plant operated for an extended period in reduced inventory as a result of not correcting the incompatibility between the nozzle dams and the locking ring. Using Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because the senior reactor analysts' Phase 2 and 3 analyses determined that the increase in

core damage frequency was approximately 3X10⁻⁷.

Inspection Report# : [2004004\(pdf\)](#)

G

Significance: Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INEFFECTIVE CORRECTIVE ACTIONS TO ADDRESS AN INADEQUATE SERVICE WATER PIPING INSPECTION PROGRAM

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly correct the lack of an adequate routine inspection and maintenance program for essential spray pond system piping and components. The finding has been entered into the licensee's corrective action program as Condition Report/Disposition Request 2732683. The finding had problem identification and resolution crosscutting aspects associated with engineering personnel not entering deficiencies into their licensee commitment tracking system and not generating a condition report/disposition request.

This finding is greater than minor because it affected the reactor safety mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. If left uncorrected the finding could become a more significant safety concern in that inspections of spray pond piping was not performed as committed to in the licensee's Generic Letter 89-13 response. The finding is of very low safety significance because the issue constituted a qualification deficiency that did not result in a loss of function per Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1.

Inspection Report# : [2004004\(pdf\)](#)

Significance: SL-IV Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM A COMPLETE SHUT DOWN COOLING HEAT EXCHANGER TEMPERATURE LOOP CHANNEL CALIBRATION

A Severity Level IV noncited violation of Technical Specification 3.3.11 was identified for the failure to include the resistance temperature detectors in the channel calibration for the shutdown cooling heat exchanger temperature instruments. Specifically, prior to the implementation of Improved Technical Specifications, the licensee did not perform testing of the resistance temperature detectors. Following the implementation of Improved Technical Specifications, the licensee did not perform an in-place qualitative assessment of the resistance temperature detectors' behavior. This issue was entered into the corrective action program as CRDR 280178.

The failure to perform a complete shutdown cooling heat exchanger temperature loop channel calibration is determined to have greater than minor significance because the licensee's failure to report the condition impacted the NRC's ability to perform its regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because it only affected the mitigating system cornerstone and the resistance temperature detectors were found to be within calibration.

Inspection Report# : [2004003\(pdf\)](#)

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Significance: Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM MONTHLY REVIEWS TO ENSURE EXCESS HOURS HAVE NOT BEEN ASSIGNED

The inspectors identified a noncited violation of Technical Specification 5.2.2.d for the failure of authorized individuals to review monthly overtime reports to ensure that excessive hours have not been assigned. Specifically, following the implementation of an electronic reporting system in 2001, the licensee did not ensure that all managers continued to receive and approve the Excess Hours Report.

The finding is greater than minor because if left uncorrected it could become a more significant safety concern in that exceeding the NRC Generic Letter 82-02, "Nuclear Power Plant Staff Working Hours," guidelines for overtime limits is a contributor to worker fatigue. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because there were no known actual adverse plant or equipment conditions that could be attributed to worker fatigue.

Inspection Report# : [2004003\(pdf\)](#)

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Significance: Jun 18, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY TRANSLATE DESIGN INFORMATION INTO THE AS-BUILT CONFIGURATION

The team identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion III, "Design Control." The licensee failed to correctly translate design information into the as-built configuration of the auxiliary feedwater system, in that, 28 feet of exposed auxiliary feedwater minimum flow recirculation line was not protected from a tornado-generated missile for both trains as described in

Design Basis Manual, Table 2-1 and Section 10.4.9.1, "Design Basis," of the Final Safety Analysis Report. This issue was entered into the licensee's corrective action program as Condition Report/Deficiency Request 2721947.

In accordance with NRC Inspection Manual 0612, Appendix B, "Issue Screening," this finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone, and affected the cornerstone objective to ensure the capability of systems to respond to initiating events. The inspectors evaluated the issue using the Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones provided in Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance because: the finding did not represent an actual loss of safety function and because the analyst determined that the system would continue to meet its risk-significant function following a postulated tornado initiating event.

Inspection Report# : [2004007\(pdf\)](#)

Significance:  Apr 08, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY IMPLEMENT THE VENTING REQUIREMENTS OF PROCEDURE 40OP-9S101

A noncited violation of Technical Specification 5.4.1a. was identified for the failure to correctly implement the venting requirements of Procedure 40OP-9SI01, Appendix D. Specifically, when venting the shutdown cooling system while in reduced inventory, the operators failed to attain a steady stream of air free water from Valve V019 and vented from a location not specified in the procedure.

This finding was more than minor because the failure to properly vent the shutdown cooling system while in reduced inventory could, if left uncorrected, become a more significant safety concern. The inadequate venting was associated with the operability, availability, and function of the shutdown cooling system while in reduced inventory (i.e., potential loss of long term decay heat removal).

This performance issue was found to be of very low safety significance (GREEN), because none of the plant conditions met the threshold for performing a Phase 2 analysis. This finding has cross-cutting implications in the human performance area. That is, this violation was the direct result of operators not correctly implementing a procedure.

The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2686273.

Inspection Report# : [2004009\(pdf\)](#)

Significance:  Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY DEGRADATION OF POLYETHYLENE CHANNELS ON CLASS 1E BATTERIES

Green. The inspectors identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Actions. Specifically, the licensee did not identify the degradation of polyethylene insulating channels on Class 1E station batteries. Missing insulating channels could affect the seismic qualification of the batteries.

This finding is greater than minor because it affects the reactor safety mitigating system cornerstone objective to ensure the capability of systems that respond to initiating events. Using the Significance Determination Process Phase 1 Worksheet, the finding was determined to have a very low safety significance, since there was no case where enough insulating channels had slipped to affect the seismic analyses, and the batteries remained in their design configuration.

Inspection Report# : [2004002\(pdf\)](#)

Significance:  Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ESTABLISH AFW PUMP OPERABILITY PRIOR TO MODE 3 ENTRY

Green. The inspectors identified a noncited violation for the failure to comply with Technical Specification 3.0.4 in that Mode 3 was entered on two occasions, once on December 8 and again on December 10, 2003, when compliance with Technical Specification 3.7.5, "Auxiliary Feedwater System," had not been established. Specifically, the acceptance criteria of Procedure 73ST-9XI38, "AFA-P01 Discharge Check Valve AFA-V015 - Inservice Test," was not met. Consequently, the required number of auxiliary feedwater trains were not available to support plant conditions in Mode 3.

The finding is greater than minor since it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of equipment availability. Using the Significance Determination Process Phase 1 and 2 worksheets, the finding was determined to effect the loss of a single train of a system for greater than its Technical Specification allowed outage time. The finding was very low safety significance because the exposure time for this condition was less than 24 hours and all mitigation capabilities described on the selected Significance Determination Process Phase 2 worksheets for the applicable core damage sequences were maintained.

Inspection Report# : [2004002\(pdf\)](#)

G**Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Surveillance Requirement 3.5.3.8

Green. The inspectors identified a noncited violation for the licensee's failure to implement Surveillance Requirement 3.5.3.8 for all three units. The licensee failed to identify and remove debris in Trains A and B emergency core cooling system sumps during their last performance of Procedure 31ST-SI01, "Cleaning/Inspection of ECCS Sumps," Revision 7. Specifically, the licensee failed to identify unqualified tie-wraps that were attached to the stem of the containment sump suction valves inside the emergency core cooling system sumps.

This finding is greater than minor, since it affected the mitigating system cornerstone objective of equipment reliability because the debris could have affected containment spray pump flow by clogging spray nozzles. The finding is of very low safety significance because the amount of debris would have only degraded containment spray pump flow during a potential large break loss of coolant accident, but the safety function would have been fulfilled based on the small amount of debris.

Inspection Report# : [2003005\(pdf\)](#)**G****Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Improper Design Control Results in Unscreened 1-inch Hole in Emergency Core Cooling Sump Cover

Green. The inspectors identified a noncited violation related to 10 CFR Part 50, Criterion III, "Design Control." This violation is related to having an unscreened hole in each emergency core cooling system train's sump covers. These 1-inch holes were greater than the 1/8-inch gaps allowed by the emergency core cooling system sump design.

This finding is greater than minor because it affected the mitigating system cornerstone objective of equipment reliability by not assuring that the sump structure would filter out all debris greater than 3/16-inch diameter. The finding is of very low safety significance because the location of these holes were not in the design flowpath for water into the emergency core cooling system sump, which would have limited the amount of debris introduced into the system.

Inspection Report# : [2003005\(pdf\)](#)

Barrier Integrity

Significance: SL-IV Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

CONTAINMENT PURGE PENETRATION NONCONFORMANCE

A Severity Level IV noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a nonconforming condition in a timely manner. Specifically, since June 2001, the licensee discontinued implementation of required Technical Specification surveillance testing for the containment purge valves by declaring the valves inoperable and installing blind flanges. This issue was entered into the corrective action program as CRDR 2711167.

The finding is greater than minor because the licensee's failure to submit a license amendment to correct the nonconforming condition impacted the NRC's ability to perform its regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone and the installation of blind flanges adequately maintained containment integrity.

Inspection Report# : [2004003\(pdf\)](#)**G****Significance:** Jun 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

MISSING BOLTS ON SUPPORT FOR MAIN STEAM LINE WHIP RESTRAINT

A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for the failure to secure a main steam line pipe whip restraint inside the Unit 2 containment in accordance with design drawings. Specifically, the pipe whip restraint was missing four 1/2-inch diameter nuts from the embedded anchor bolts. This issue was entered into the corrective action program as CRDR 2643347.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the containment barrier from radionuclide releases caused by accidents or events. Using the Phase 1

worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because it did not represent an actual open pathway in the physical integrity of the reactor containment and did not represent an actual reduction of the atmospheric pressure control function of the reactor containment.

Inspection Report# : [2004003\(pdf\)](#)

Significance: SL-IV May 21, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROVIDE AN EVALUATION OF A CHANGE TO THE FACILITY AS DESCRIBED IN THE UFSAR, UNDER 10 CFR 50.59 REQUIREMENTS

The team identified a Severity Level IV violation of 10 CFR 50.59 requirements for failing to evaluate a modification to spent fuel storage in the spent fuel pools. The team reviewed CRDR 2524176, regarding the lack of a criticality analysis to support the use of rod capture tubes, which hold individual harvested fuel pins, in the spent fuel rack. The team reviewed the licensee's process of storing individual fuel pins, removed from a parent fuel assembly, and placed in rod capture tubes to be located in guide tubes of another host assembly. This resulted in a component that had nuclear fuel pins, of varying enrichment and depletion, stored as a regular fuel assembly in the spent fuel pools. The team noted that Section 9.1 of the UFSAR specifically described the storage of spent fuel in regions based upon fuel assembly initial enrichment, actual burnup, and actual decay time. The UFSAR does not describe the storage of individual pins in these regions. The licensee previously interpreted this as meaning the UFSAR did not prohibit such storage, and would not require consideration of enrichment, burnup, and decay of individual pins. The licensee failed to provide an evaluation of a change to the facility as described in the UFSAR, under 10 CFR 50.59 requirements. The licensee subsequently performed an evaluation of the criticality under station procedure 72DP-9NF01, "Control of SNM Transfer and Inventory," which was found acceptable.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the barrier integrity cornerstone attribute of human performance, and could have represented a more significant issue if left uncorrected. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The team leader and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the barrier integrity function. The licensee entered this issue into its corrective action program as CRDR 2711241.

Inspection Report# : [2004006\(pdf\)](#)

G

Significance: Apr 08, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENTER A NONCONFORMITY REPORT FROM THE STEAM GENERATOR FABRICATOR INTO THE PALO VERDE CORRECTIVE ACTION PROGRAM

A noncited violation of Criterion XVI, Corrective Action, of Appendix B to 10 CFR Part 50, was identified for the failure of the measures established to assure conditions adverse to quality are promptly identified and corrected. Specifically, although a fabricator informed licensee representatives of a tube with damage from a packing crate screw, the licensee representative did not enter the issue into the corrective action program to assure that the adverse condition (i.e., inadequate packing of tubes) was promptly corrected. Additionally, the corrective action program was deficient in that there was no mechanism to ensure that adverse conditions identified by the fabricator were made known to the appropriate licensee personnel. As a result, the potential for a similarly damaged tube to exist in the steam generators installed in the plant was not assessed, nor were actions taken to support detecting such a damaged tube during the pre-service examination by the licensee's eddy current examiners.

This finding is more than minor because it had actual safety consequences (i.e., a steam generator tube leak). This finding affects the barrier integrity cornerstone because of the potential to release radionuclides through the leaking tube. Reactor coolant system barrier performance was the affected attribute. This finding has cross-cutting implications in the problem identification and resolution area. That is, this finding was the direct result of the engineering staff's failure to properly address and correct a condition adverse to quality. The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2685303.

This finding was found to be of very low safety significance after a Phase 3 evaluation using the Manual Chapter 0609, Significance Determination Process.

Inspection Report# : [2004009\(pdf\)](#)

G

Significance: Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

PRESSURIZER LEVEL TRANSIENT ABOVE TECHNICAL SPECIFICATION LIMIT

Green. The inspectors identified a noncited violation of Technical Specification 5.4.1.a because an inadequate work order was used to perform

a pressurizer level control system data collection engineering action plan. The work order was inadequate in that it resulted in exceeding the maximum pressurizer level allowed by Technical Specification 3.4.9.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the reactor coolant system barrier from radionuclide releases caused by accidents or events. Using the Significance Determination Process Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affects the barrier integrity cornerstone and was a deficiency that did not result in the actual degradation of the reactor coolant system barrier.

Inspection Report# : [2004002\(pdf\)](#)

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: FIN Finding

FAILURE TO USE A CONSERVATIVE METHOD TO CALCULATE REACTOR COOLANT SYSTEM HEAT LOSSES FOR POSTMODIFICATION TESTING

Green. Proposed postmodification testing to determine the new heat losses to ambient term used in reactor thermal power calculations was inappropriate because it would have resulted in a nonconservative bias. Changes to the reactor coolant system components and new insulation were expected to cause a change in heat lost from the reactor coolant system. The licensee's software for calculating reactor thermal power included a constant term used to account for the reactor power lost in this way. The licensee planned to determine the new heat loss term by measuring it with the plant shutdown at the no-load operating temperature, and then applying it to all power levels. The proposed test would measure a lower heat loss term than would be present at full load power and temperatures, introducing a nonconservative bias in the calculated reactor power. The licensee estimated that the bias was expected to be about 0.3 MWth (.01 percent power). Since the output of this calculation was used to calibrate nuclear instrument reactor power and turbine power instruments, this bias would have caused a similar effect in these instruments.

The safety significance of the proposed testing being nonconservative was very low, since the licensee planned to account for this condition prior to the implementation of the plant changes. This issue affected the Barrier Integrity Cornerstone objective for design control in maintaining fuel integrity. It was more than minor because if left uncorrected, it would be more significant because the licensee could inadvertently operate Unit 2 above its maximum licensed power level.

Inspection Report# : [2003009\(pdf\)](#)

Emergency Preparedness

Significance:  Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPLEMENTATION OF A CHANGE TO TABLE 1 WHICH WAS A DECREASE IN EFFECTIVENESS OF THE EMERGENCY PLAN

Green. On February 16, 2003, the licensee implemented an emergency plan change, which decreased the required number of onshift emergency responders. This change constituted a decrease in effectiveness of the emergency plan because it could have resulted in a dedicated onshift communicator being replaced by a shift technical advisor, with a loss of one onshift position. Implementation of changes to the emergency plan, which constitute a reduction in the effectiveness of the plan without prior NRC approval, was a noncited violation of 10 CFR 50.54(q).

The finding was evaluated using NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," Section IV, because licensee reductions in the effectiveness of its emergency plan impact the regulatory process. The finding had greater than minor significance because reducing the required number of onshift emergency responders had the potential to impact the ability to perform all necessary emergency functions. The finding was determined to be a noncited Severity Level IV violation because the emergency plan change constituted a failure to implement a regulatory requirement, but did not constitute a failure to meet an emergency planning standard as defined by 10 CFR 50.47(b) because actual staffing levels remained above the emergency plan minimum. This finding has been entered into the licensee's corrective action program as Condition Report Disposition Request 2670023.

Inspection Report# : [2004002\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Significance: N/A May 21, 2004

Identified By: NRC

Item Type: FIN Finding

IDENTIFICATION AND RESOLUTION OF PROBLEMS

The team concluded that the licensee was generally effective at identifying problems and processing them through the corrective action program. The licensee effectively prioritized and evaluated issues with a few exceptions. The team identified examples where the licensee had not evaluated identified issues for proper compliance with 10 CFR 50.59 requirements. Additionally, in some cases, corrective actions were not timely or fully documented. Licensee audits and assessments were found to be effective except for one example involving maintenance rule application to radiation monitors. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety findings into the corrective action program.

Inspection Report# : [2004006\(pdf\)](#)

Last modified : December 29, 2004