

Palo Verde 1

1Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Nov 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

UNINTENTIONAL BORATION OF REACTOR COOLANT SYSTEM DUE TO INAPPROPRIATE WORK PERMIT

A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of operations personnel to have adequate work control procedures that resulted in an inadvertent boration of the Unit 1 reactor coolant system. Specifically, on July 19, 2006, Work Mechanism 2907666, and the associated work permit, were not adequately reviewed for impact on the plant and were not assessed as having the potential for a direct reactivity impact as required by work control procedures. As a result of the inadequate review, an inadvertent boration of the reactor coolant system occurred during implementation of the work permit because the technical document was not appropriate for operating plant conditions. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2911493.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected because unexpected impacts to structures, systems, and components could occur, resulting in inoperable equipment and plant transients, if work permits are not appropriately reviewed prior to implementation. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the initiating events cornerstone and did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee did not provide accurate procedures and work instructions to plant personnel. The inaccurate procedures caused an inadvertent boration of the Unit 1 reactor coolant system

Inspection Report# : [2006004](#) (*pdf*)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PRECLUDE A SIGNIFICANT CONDITION ADVERSE TO QUALITY

A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the failure of licensee personnel to preclude repetition of a significant condition adverse to quality. Specifically, on April 17, 2006, and for the second time in two years, a submersible vehicle was suctioned into a system providing cooling to nuclear fuel, rendering the system inoperable. Following the April 11, 2004, event, the licensee's corrective actions concentrated on a lack of instructions and a lack of communications with the control room. While it was recognized that the event was transportable to other systems, and that the consequences could have been more severe, the corrective actions were limited in scope and were not adequate to preclude repetition. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2885213.

The finding is greater than minor because it is associated with the configuration control and human performance cornerstone attributes of the initiating events cornerstone and affects the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using the Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," Checklist 4, the finding is determined to have very low safety significance because the finding did not increase the likelihood of a loss of reactor coolant system inventory. Additionally, the finding did not degrade the licensee's ability to terminate a leak path or add reactor coolant system inventory, neither did it degrade the licensee's ability to recover decay heat removal once it is lost. The cause of the finding is related to the crosscutting element of problem identification and resolution in that licensee personnel did not implement corrective actions to preclude

repetition of a significant condition adverse to quality. Additionally, the cause of the finding is related to the crosscutting element of human performance in that licensee personnel did not stop movement of the submersible upon becoming disoriented.

Inspection Report# : [2006003](#) (*pdf*)

Mitigating Systems

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Change to Emergency Diesel Generator Intake Air Oil Bath Filter Standby Oil Level Specification

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of engineering personnel to verify or check the adequacy of design for maintaining the emergency diesel generator air intake oil bath filters' oil level below the "add oil" mark. Specifically, from approximately November 1994 to January 24, 2007, engineering personnel failed to translate vendor requirements for the Air Maze oil bath air filter oil level into an appropriate operating band. This issue was entered into the corrective action program as Condition Report/Disposition Request 2963525.

The finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to be of very low safety significance because it did not represent an actual loss of system safety function, did not represent an actual loss of a single train for greater than its technical specification allowed outage time, and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Properly Implement Operability Determination Process

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure of engineering and operations personnel to follow procedures and adequately evaluate degraded and nonconforming conditions to support operability decision-making associated with a containment spray pump Train A motor bearing oil leak. Specifically, on February 8, 2007, operations and engineering personnel failed to consider all relevant information when determining the measured leak rate for an oil leak on containment spray Pump 1MSIAP03 to perform an adequate operability determination. This issue was entered into the corrective action program as Palo Verde Action Requests 2968212, 2968501, 2968213, and 2968767.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent operability evaluations determined that there was no adverse effect to mitigating equipment. This finding has a crosscutting aspect in the area of human performance associated with decision-making because the licensee did not use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify Misalignment of Spring Cans

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of inservice inspection personnel to promptly identify misalignment of spring cans on safety-related piping. Specifically, between April 2005 and May 2006, inservice inspection personnel failed to identify misalignment of spring cans associated with the auxiliary feedwater system and the emergency diesel generators. Section 8.3.5 of Procedure 73TI-9ZZ18 required that the examination of piping systems should be directed to detect any relevant conditions, including misalignment of supports. This issue was entered into the corrective action program as Palo Verde Action Request 2980767.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the failure to identify degraded and non-conforming equipment conditions could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it did not represent 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 finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since inservice inspection personnel had an inappropriately high threshold for recognizing the misalignment of spring cans on safety-related piping.

Inspection Report# : [2007002 \(pdf\)](#)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures Results in Declaring Both Actuator Trains of Main Steam Isolation Valve MSIV-170 Inoperable

A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of operations personnel to follow procedure which resulted in declaring both actuator trains for main steam isolation Valve MSIV-170 inoperable. Specifically, on March 12, 2007, operations personnel did not follow Procedure 73ST-9SG01 or guidance from the pre-job brief and recognize a condition that could result in the inoperability of both main steam isolation valve actuator trains. Upon recognition of the abnormal condition, operations personnel took action to restore operability. This issue was entered into the corrective action program as Condition Report/Disposition Request 2982116.

The finding is greater than minor because it is associated with the human performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not represent an actual loss of safety function. This finding has a crosscutting aspect in the area of human performance associated with work practices because operations personnel did not follow procedures or the guidance from the pre-job briefing that would have prevented a main steam isolation valve from becoming inoperable and the entry into a short duration technical specification condition.

Inspection Report# : [2007002 \(pdf\)](#)

Significance:  Feb 09, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Technical Evaluation of HPSI Pump Bearing Oil Leaks

A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with two examples was identified for two inadequate operability evaluations. Prompt operability determinations in CRDRs 2941494 and 2303499 incorrectly concluded that High Pressure Safety Injection Pumps 2A and 3A, respectively, could meet their mission time with existing oil leakage from the bearings. The team concluded that these evaluations relied upon unverified and incorrect assumptions and non-conservative volumes. The apparent cause evaluation for the leakage identified contributing causes that were common to all pumps, but the operability of the other pumps was not assessed. The team identified a history of small oil leaks in high pressure safety injection pumps since 2000, but the licensee was unaware of this trend. Subsequent testing confirmed that five of the six high pressure safety injection pumps had oil leakage which would not allow running those pumps for the full mission time, but sufficient oil was available to run for at least 94 days. This finding was determined to have cross-cutting aspects in the human performance area of decision-making, because the

licensee did not use conservative assumptions and demonstrate that the proposed course of action was safe.

Failure to adequately evaluate and correct oil leakage in High Pressure Safety Injection Pumps 2A and 3A, and failure to assess the extent of condition for similar pumps, was a performance deficiency. The finding was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective of ensuring the availability and reliability of a system that responds to initiating events. This finding screened as Green during Phase 1 of the significance determination process because it did not involve a loss of safety function. This issue was entered into the corrective action program under Condition Report/Disposition Report 2973682.

Inspection Report# : [2007007](#) (pdf)

Significance:  Feb 09, 2007

Identified By: NRC

Item Type: FIN Finding

Preventive Maintenance Change Backlog Was Not Tracking Due Dates

A finding was identified for failure to schedule and perform preventive maintenance tasks that were in the preventive maintenance change process. The team identified that a backlog of over 2500 preventive maintenance changes existed which resulted in these preventive maintenance tasks not being scheduled or performed, potentially challenging completion within the specified frequency. The team found 438 examples of preventive maintenance tasks that were overdue, and an additional 2113 that had no due date assigned yet. This program was used to revise both safety-related and non-safety preventive maintenance tasks. Because these preventive maintenance tasks were in the change process, the tasks were not scheduled or tracked in a way that would show when they became overdue. This was contrary to Procedure 30DP-9MP08, "Preventive Maintenance Program," Revision 17, which required that "no preventive maintenance on operational equipment shall pass that late date without an approved deferral which will address a technical justification for the identified issue." This finding had human performance cross-cutting aspects associated with resources because the large backlog of preventive maintenance tasks was contrary to maintaining long-term equipment reliability.

Failure to track, schedule, and perform preventive maintenance activities within their specified frequencies in accordance with their preventive maintenance program was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern in that the lack of preventive maintenance would affect the reliability of plant equipment which could impact the initiating events or mitigating systems cornerstones. Because of the large number of preventive maintenance tasks (over 2500) in this category, the team reviewed a sample of 79 tasks associated with safety-related or quality-class components to assess the significance. The team did not identify any examples of overdue safety-related tasks. Based on the lack of risk significant examples and the fact that this finding is not suitable for significance determination process evaluation, this issue was reviewed by NRC management and was determined to be a finding of very low safety significance. This issue was entered into the corrective action program under Palo Verde Action Request 2970076.

Inspection Report# : [2007007](#) (pdf)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION

The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance and engineering personnel to follow Procedure 30DP-9WP11, "Scaffolding Instructions," Revision 13, and associated engineering specifications governing scaffold erection near safety-related components. Specifically, on September 13, 2006, inspectors identified three scaffolds that were within 2 inches of safety-related components. The scaffolding did not have an engineering evaluation in place, nor were there any documented records of engineering evaluations for any other scaffolding on site. Again on October 3, 2006, the inspectors identified two scaffolds that were directly attached to the fuel and auxiliary building essential air handling units, without the required evaluations. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2924707 and 2929770.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that improperly installed scaffolding could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse effect to mitigating equipment. This finding

has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities to keep personnel apprised of the operational impact of work activities. Additionally, this finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective actions in that the licensee did not take appropriate corrective actions to address safety issues in a timely manner
Inspection Report# : [2006005](#) (*pdf*)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

TWO EXAMPLES OF FAILURE TO PROPERLY IMPLEMENT OPERABILITY DETERMINATION PROCESS

The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure of engineering and operations personnel to adequately evaluate degraded and nonconforming conditions to support operability decision making as described in Procedure 40DP-9OP26, "Operability Determination and Functional Assessment." Specifically, on October 11, 2006, operations personnel did not evaluate the potential effects of the degraded condition of the nitrogen system piping on a containment isolation valves' ability to close. Additionally, on November 6, 2006, engineering personnel did not include the amount of fiberglass insulation tape found in the Unit 3 containment in the estimated quantity of tape in containment for the Unit 1 operability justification. These issues were entered into the licensee's corrective action program as Condition Report/Disposition Requests 2932103 and 2940354.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent operability evaluations determined that there was no adverse effect to mitigating equipment. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee did not use conservative assumptions for operability decision making when evaluating degraded and nonconforming conditions

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN SEISMIC QUALIFICATION OF POST ACCIDENT MONITORING INSTRUMENTATION

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for post accident monitoring instrumentation by operations personnel. Specifically, prior to November 22, 2006, operations personnel did not maintain the seismic qualification of post accident monitoring instrumentation, by pulling recorders out from the fully inserted position for extended periods. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2945259.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that safety-related equipment that is not maintained in a seismically qualified condition may not be available to perform its safety function under certain accident conditions. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not affect the loss or degradation of equipment specifically designed to mitigate a seismic event, and it did not involve the total loss of any safety function that contributes to external event initiated core damage accident sequences

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN PROCEDURES AND INSTRUCTIONS

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to promptly identify and correct a condition adverse to quality. Specifically, since 1992, the licensee failed to maintain procedures and written instructions in accordance with quality assurance program requirements, including, periodic procedural reviews and implementation of the procedure feedback process. These issues resulted in a significant number of deficient procedures and instructions not being corrected in a timely manner and not receiving adequate reviews. One example involved the failure to provide adequate instructions for mounting temperature element housings adversely affecting seismic qualifications required to protect the functionality of safety related equipment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2952142.

This finding is greater than minor because the failure to identify and correct deficient procedures, if left uncorrected, would become a more significant safety concern in that quality related systems, structures, and components could be adversely affected by implementing inadequate instructions. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not result in loss of operability per, "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment." This finding involved problem identification and resolution crosscutting aspects associated with the failure to promptly identify and correct deficient procedures/instructions resulting in the potential to adversely affect quality related systems, structures, and components
Inspection Report# : [2006005](#) (pdf)

Significance: TBD Nov 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT THE OPERABILITY DETERMINATION PROCESS

The team identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to perform operability determinations. In both examples, the licensee failed to perform an operability determination following identification of a degraded condition that had the potential to adversely affect the safety function of all emergency diesel generators. Specifically, an operability determination was not performed after identifying the failure of the Unit 3 Train A emergency diesel generator on July 25, 2006, was potentially the result of plastic debris affecting proper auxiliary contact operation of a K-1 relay. The licensee determined the debris most likely originated from a modification performed on all emergency diesel generator K-1 relays during initial plant startup. Following another failure of the Unit 3 Train A emergency diesel generator on September 22, 2006, an operability determination was not performed after identifying the failure was the result of the K-1 relay actuating arm not providing adequate compression of the auxiliary contacts. The licensee determined this degraded condition most likely originated during implementation a modification done to all emergency diesel generator K-1 relays during initial plant startup.

This finding is greater than minor because the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern in that degraded or nonconforming conditions would not be properly evaluated. Using the Phase 1 worksheet in NRC Inspection Manual Chapter 0609, "Significance Determination Process," the finding was determined to have very low safety significance because unreliable K-1 relay operation resulted in no actual loss of safety function of the other five emergency diesel generators prior to corrective actions being implemented, and the finding did not represent a potential risk significant condition because of a seismic, flooding, or severe weather event. This issue is documented in the licensee's corrective action program as Condition Report/Disposition Requests 2928389 and 2940558. The cause of this finding is related to the crosscutting element of problem identification and resolution in that engineering personnel failed to properly evaluate and perform operability determinations for identified degraded conditions affecting the emergency diesel generators.

Inspection Report# : [2006012](#) (pdf)

Significance:  Nov 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CORRECTIVE ACTIONS TO PRECLUDE WATER INTRUSION AND CORROSION OF UNDERGROUND PIPING AT THE FACILITY

The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to promptly correct water intrusion problems in multiple areas in the facility, that were identified and examined from January 1991 to April 2006. Specifically, the licensee failed to promptly correct the water intrusion problems in the facility piping vaults and manholes. This finding also had aspects of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failing to maintain a vault in its watertight design condition and to coat exposed

pipng with its specified coating to ensure corrosion protection. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2885972, 2880283, and 2902572.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and there was no actual loss of piping material that exceeded the minimum allowable wall thickness or a loss of safety function that exceeded Technical Specification allowed outage times. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that existed from 1992 to April 2006. The failure to promptly correct this condition resulted in the degradation of the wall thickness of the spray pond piping and the Unit 3 emergency diesel generator Train A being declared inoperable after the fuel transfer pump did not meet the acceptance criteria during a surveillance

Inspection Report# : [2006004](#) (pdf)

Significance:  Nov 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY FOR THE EMERGENCY DIESEL GENERATORS

The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to identify degraded material conditions on the emergency diesel generators. Between July and September 2006, operations and engineering personnel did not promptly identify and correct material conditions adverse to quality. Specifically, operations and engineering personnel did not identify numerous fluid leaks, and loose and missing fasteners on the emergency diesel generator skid, and did not enter them in the corrective action program. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2914886.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that unidentified conditions adverse to quality could challenge the operability of equipment important to safety. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because failing to implement the corrective action program with a low threshold for identifying adverse material conditions resulted in degradation of the emergency diesel generators which was not being tracked and evaluated

Inspection Report# : [2006004](#) (pdf)

Significance: N/A Sep 30, 2006

Identified By: NRC

Item Type: FIN Finding

SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION

The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct

inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested date of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : [2006010](#) (*pdf*)

G

Significance: Sep 26, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

TWO EXAMPLES OF FAILURE TO TRANSLATE SPRAY POND DESIGN ASSUMPTIONS INTO PLANT PROCEDURES CONTROL

Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified involving the failure to adequately translate the design basis of the spray ponds into procedures. Design Calculation 13-MC-SP-0307, "SP/EW System Thermal Performance Design Basis Analysis," Revision 7, which demonstrated that the spray pond system could adequately limit spray pond temperature during a design basis accident did not account for any reduced heat capacity caused by sediment buildup. However, this fact was not translated into procedures, so approximately 400 cubic yards of sediment had built up in each of the six spray ponds when the team questioned the impact to the heat removal function. Also, the same calculation demonstrated that sufficient water was available to provide adequate cooling during a design basis accident, but did not account for any leakage from the ponds. The team determined that the licensee did not translate this into a procedure to ensure that the condition of the spray pond was maintained such that leakage did not occur. Procedure 81DP-0ZZ01, "Civil System, Structure, and Component Monitoring Program," Revision 11, was used to monitor the condition of the pond structures. The team identified that it examined only the exposed concrete surfaces, which constituted about 7 percent of the surface area and almost none of the water-containing volume. Cracks had been identified and repaired in this area, but the inspections were not expanded to the underwater surfaces. This issue was documented in Condition Report/Disposition Requests 2906671 and 2910912.

Failure to adequately translate the design basis of the spray ponds into procedures was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, the finding could become a more significant safety concern. This finding affected the Mitigating Systems Cornerstone. This performance deficiency screened as having very low safety significance in a Phase 1 significance determination process because the licensee was able to demonstrate that the sediment would not have resulted in a loss of safety function, and that significant leakage did not exist. The licensee was able to revise the calculation to take credit for heat absorption by the concrete walls, and scheduled inspections by divers of underwater portions of the ponds to follow sediment removal

Inspection Report# : [2006011](#) (*pdf*)

G

Significance: Sep 26, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

MULTIPLE EXAMPLES OF INADEQUATE OPERABILITY ASSESSMENTS FOR HEAT EXCHANGER DEGRADATION

A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with multiple examples was identified for failure to adequately assess the impact to operability of degraded heat exchangers in the emergency diesel generators and essential cooling water system. Specifically, the licensee failed to follow Procedure 40DP-9OP26, "Operability Determination and Functional Assessment," Revision 16, in assessing indications of degraded

heat exchanger performance, an activity affecting quality. Key support organizations were not always involving operations personnel with questions that had a potential to affect the operability of safety-related equipment, or were informing operators only after the support organization had fully evaluated the condition, delaying actions that were required to be prompt. Also, operations personnel did not always insist on a rigorous evaluation. This issue was documented in Condition Report/Disposition Requests 2918892, 2901815, and 2898237.

Failure to adequately implement the operability assessment process was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. This finding screened as having very low safety significance in a Phase 1 significance determination process, because the examples used for this violation were confirmed not to involve any loss of safety function. This finding had cross-cutting aspects in the area of human performance because the licensee did not follow their systematic process for operability decision making when information was not brought to the right decision makers

Inspection Report# : [2006011](#) (*pdf*)

Significance:  Sep 26, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TEST CONTROL TO PROMPTLY IDENTIFY UNACCEPTABLE HEAT EXCHANGER PERFORMANCE TEST RESULTS - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified. Test Procedure 70TI-9EW01, "Thermal Performance Testing of Essential Cooling Water Heat Exchangers," and Procedure 73DP-9ZZ10, "Guidelines for Heat Exchanger Thermal Performance Analysis," were inadequate to ensure the timely determination that the requirements and acceptance limits contained in applicable design documents were met. Specifically, performance testing for Essential Cooling Water Heat Exchanger 2B conducted on March 19, 2002, did not meet the design basis requirements specified in Calculation 13-MC-SP-0307, "SP/EW System Performance Design Bases Analysis," Revision 007, but this was not correctly evaluated to determine whether the system would be capable of performing its design function until August 22, 2002, due to incorrect procedure guidance and lack of requirements to ensure timely evaluation. As a result, this component continued to degrade for 18 months after demonstrating unacceptable performance. This finding had cross cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety.

Failure to properly control testing and properly identify unacceptable performance was a performance deficiency. This finding was more than minor because it impacted the procedure quality attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has a very low safety significance. This issue was entered into the Corrective Action Program under CRDR 2928230. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-02, Inadequate Test Control to Promptly Identify Unacceptable Performance Test Results. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.

Inspection Report# : [2006011](#) (*pdf*)

Significance: SL-IV Sep 26, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

10 CFR 50.59 REVIEWS NOT PERFORMED OR INADEQUATE FOR MULTIPLE CHANGES TO SPRAY POND CHEMISTRY CONTROL PROCEDURE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.

SL-IV. A noncited violation of 10 CFR 50.59 was identified for making nine revisions to Procedure 74DP-9CY04, "System Chemistry Specification," a procedure described in the Updated Final Safety Analysis Report between 1998 and 2004. Specifically, the licensee failed to perform evaluations for Revisions 3, 6, 8, 10, 12, 24, 28, 32, and 36 and performed inadequate evaluations for Revisions 10 and 36, to assess the potential impact of the changes on the safety-related components in the spray pond system. Each of these changes revised spray pond chemistry parameter limits which were

subsequently determined to have contributed to heat exchanger fouling.

Failure to adequately evaluate the impact of changes to the Chemistry Control Program was a performance deficiency. Because this violation had the potential to impact the NRC's regulatory function, and because the associated significance was determined to be Green using Phase 3 of the significance determination process, this violation is being treated as a Severity Level IV violation. This issue was entered into the Corrective Action Program under CRDR 2902498. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-03, 50.59 Reviews Not Performed or Inadequate for Multiple Changes to Spray Pond Chemistry Control Procedure. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.

Inspection Report# : [2006011](#) (pdf)

Significance:  Sep 26, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IDENTIFICATION AND CORRECTIVE ACTION FOR DEGRADED ESSENTIAL COOLING WATER HEAT EXCHANGER PERFORMANCE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified. On March 19, 2002, performance testing for Essential Cooling Water Heat Exchanger 2B indicated that the system would not be capable of performing its design function, but this significant condition adverse to quality was not promptly identified, the cause determined, or corrective actions taken to restore the required heat exchanger performance. Specifically, the unacceptable performance was not promptly identified, because the test results were not correctly calculated until August 22, 2002, which was after operating mode changes and returning the unit to power following the outage. When the test results were finalized, the fact was that the design basis capability was not met, was not recognized or entered into the corrective action program. These failures to correct this degraded performance contributed to the continued degradation and eventual loss of function for a period of 78 days. The failure to correct this degraded performance contributed to the continued degradation and eventual loss of function. This finding had cross cutting aspects associated with the Corrective Action Program, for both inadequate identification of problems and inadequate evaluation of the cause, extent, and impact on operability.

Failure to properly assess the impact of scaling on safety-related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, the heat exchangers associated with emergency diesel generators and essential cooling water systems in both trains in all units were allowed to degrade and Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This issue was entered into the corrective action program under CRDR 2897810. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-04, Inadequate Corrective Action for Degraded EW Heat Exchanger Performance. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.

Inspection Report# : [2006011](#) (pdf)

Significance:  Sep 26, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE DESIGN CONTROL TO ENSURE NO ESSENTIAL COOLING WATER HEAT EXCHANGER SCALING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to correctly evaluate the scaling potential of the safety-related heat exchangers cooled by the emergency spray pond during a design basis accident. An error in how the licensee interpreted the SEQUIL calculation caused the licensee to incorrectly conclude that scaling would not occur under the conditions established in the chemistry control program.

Failure to properly assess the impact of scaling on safety related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the design control attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, post accident scaling was determined to reduce heat exchanger performance by 2.3 percent of the design capability in the first 24 hours, and up to 4 percent during the design mission time. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety. This issue was documented in CRDR 2913430. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-05, Inadequate Design Control to Ensure No EW Heat Exchanger Scaling. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination. Inspection Report# : [2006011](#) (*pdf*)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILED UNIT 1 CS TRAIN B PUMP ROOM FLOOD LEVEL SWITCH DUE TO NONCONFORMING DRAIN HOSE MANIFOLD BOXES

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of operations personnel to verify or check the adequacy of the design of drain hose manifold boxes. Specifically, between 1997 and June 16, 2006, operations personnel failed to verify or check the adequacy of design of drain hose manifold boxes when the decision was made to leave the boxes permanently attached to the emergency core cooling system pump vents. The failure to evaluate the drain hose manifold boxes resulted in the degradation of the Unit 2 low pressure safety injection Train A pump room level switch, and the failure of the Unit 1 containment spray Train B pump room level switch. On June 16, 2006, the drain hose manifold boxes were removed from the emergency core cooling system pump rooms in all three units. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2903515.

The finding is greater than minor because it is associated with the design control cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone, and using the flooding criteria, would not cause a plant trip or any of the initiating events used by Phase 2, and would not degrade two or more trains of a multi-train safety system. The cause of the finding is related to the crosscutting element of problem identification and resolution in that operations personnel failed to adequately evaluate the impact of degraded level switches on the ability to detect and respond to an emergency core cooling system pump room flooding event.

Inspection Report# : [2006003](#) (*pdf*)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO EVALUATE DEGRADED CONDITIONS TO ENSURE OPERABILITY

The inspectors identified two examples of a noncited violation of Technical Specification 5.4.1.a for the failure of engineering personnel to follow procedures. On April 17, 2006, engineering personnel failed to follow Procedure 81DP-0DC13, "Deficiency Work Order," resulting in shutdown cooling Train B being declared operable without fully addressing a potential degraded condition associated with the potential for missing parts from a submersible remaining in plant systems. On May 10, 2006, engineering personnel did not perform evaluations and dispositions required by Procedure 81DP-0DC13 to justify a degraded condition for continued use of a pipe support associated with shutdown cooling line Train A. These issues were entered into the licensee's corrective action program as Condition Report/Disposition Requests 2902258 and 2892737.

The finding is greater than minor because it would become a more significant concern if left uncorrected in that Technical Specification required structures, systems, and components (SSCs) may not be operable as required for applicable plant

conditions. The performance deficiency associated with this finding was representative of a broader concern related to how the licensee ensures the operability of SSCs required to comply with Technical Specifications. Specifically, the licensee's programs and processes for assessing degraded conditions have not been implemented with the rigor and thoroughness necessary to ensure compliance with regulatory requirements. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not represent an actual loss of safety function. The cause of the finding is related to the crosscutting element of human performance in that engineering personnel did not follow procedures, resulting in the failure to perform required evaluations and dispositions for deficient conditions.
Inspection Report# : [2006003](#) (pdf)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

THREE EXAMPLES OF A TECHNICAL SPECIFICATION 3.0.4 VIOLATION

The inspectors identified three examples of a Green noncited violation of Technical Specification 3.0.4 for the failure of operations personnel to ensure the operability of required equipment prior to entry into a mode or other specified condition in the limiting condition for operations applicability. Specifically, on March 20, 2006, Mode 4 was entered with reactor coolant system pressure at 386 psia and only one operable train of containment spray. Unaware that any Technical Specification requirements were violated, operations personnel lowered reactor coolant system pressure below 385 psia and controlled pressure at this level as they proceeded towards Mode 3. A short time later, on March 20, 2006, the control room supervisor incorrectly concluded that both trains of containment spray were operable and raised reactor coolant system pressure above 385 psia. On March 20, 2006, the class pressurizer heater Train B supply circuit breaker tripped due to a grounded condition on Heater A05, rendering the equipment inoperable. This equipment condition was not recognized by operations personnel until March 22. As a result of the equipment condition, on March 21, 2006, Unit 1 changed from Mode 4 to Mode 3 without two trains of pressurizer heaters operable. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2877648, 2877591, and 2878030.

The finding is greater than minor because it is associated with the configuration control cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. For the examples of this finding related to the containment spray system, a Phase 2 analysis was required since they impacted both the mitigating systems and barrier integrity cornerstones as determined by the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet. Using the Phase 2 Worksheets associated with loss of coolant accidents, the finding is determined to have very low safety significance since all remaining mitigation capability was available. The example of this finding related to pressurizer heaters 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 consider the pressurizer heaters as a risk significant function as defined in the risk informed notebook. This finding is determined to be of very low safety significance by NRC management review. The cause of the finding is related to the crosscutting element of human performance in that operations personnel did not follow procedures and apply the necessary rigor and questioning attitude to requirements and associated decisions because of self-imposed schedule pressures.

Inspection Report# : [2006003](#) (pdf)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

INOPERABLE INVERTER DUE TO DEGRADED CAPACITORS

A self-revealing noncited violation of Technical Specification 3.8.7, "Inverters - Operating," was identified for the failure to maintain two operable trains of inverters. On October 20, 2005, Inverter 1EPNBN12 failed. The licensee's evaluation determined that procurement engineering personnel did not identify the lack of oil in the output filter capacitors for the inverter. The capacitors were installed in the inverter between October 1999 and October 20, 2005. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2845317.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter

0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not represent an actual loss of safety function.

Inspection Report# : [2006003](#) (*pdf*)

Significance:  Mar 16, 2005

Identified By: NRC

Item Type: FIN Finding

FAILURE TO TRACK CONTROL ROOM DISCREPANCIES

The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : [2005002](#) (*pdf*)

Significance:  Dec 09, 2004

Identified By: NRC

Item Type: VIO Violation

FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING

The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water. {Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}

Inspection Report# : [2004014](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

Significance: N/A Feb 09, 2007

Identified By: NRC

Item Type: FIN Finding

Summary Finding. Biennial PI&R Assessment

The team concluded that the thresholds for identifying and classifying issues were appropriately low, although several instances were identified where new aspects to complex problems were identified but not broken out and addressed properly. Numerous changes were made to the corrective action program and some improvement was evident, but some of the changes were not yet fully effective. The new Palo Verde Action Request was introduced, and senior managers were assigned to determine which actions were required in order to improve the consistency of problem treatment. Problems involving operability questions were getting to control room operators more consistently, but NRC inspectors continued to identify operability concerns that were missed by the licensee. However, having the Action Request Review Committee review all problem reports created a bottleneck in the process, creating delays in getting problems from the identification to a working stage. Problems continue to exist in the quality of problem description and significance determination. The timeliness of problem cause evaluations were improving due to management attention, but were still several times longer than station goals and industry standards.

Palo Verde Nuclear Generating Station continued to have a large number of latent equipment issues. Numerous longstanding material conditions exist which have received limited assessments and get added to the backlog with routine priority. The NRC continued to identify examples where the significance was underestimated by the licensee and were not being addressed with the timeliness commensurate with the actual safety significance until the NRC gets involved.

The team noted that significant challenges have been created because there are large backlogs of work affecting work control, maintenance support, and a variety of engineering activities. These backlogs are affecting the site's ability to address problems in a timely manner. It is apparent that these backlogs have built up over a period of years with the knowledge of management.

The Nuclear Assurance Department was active in the internal oversight role and focused on current performance problems, issuing reports that provided useful assessments. Other self-assessments reviewed were frequently narrow in scope and of limited depth. Interviews with site workers indicated that a safety-conscious work environment exists at Palo Verde Nuclear Generating Station, and that workers had an improved confidence in the strength of the safety culture. However,

there was less confidence that routine priority issues will get addressed in a timely manner.
Inspection Report# : [2007007](#) (*pdf*)

Last modified : June 01, 2007