San Onofre 2
4Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Feb 24, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate SDC purification procedure
A self-revealing, non-cited violation of Technical Specification 5.5.1.1 was identified involving implementation of an inadequate procedure resulting in the inadvertent overpressurization of the Unit 2 chemical and volume control system and the subsequent loss of approximately 370 gallons from the reactor coolant system on February 24, 2005.

The finding was determined to be more than minor because it was associated with the procedure quality attribute of the initiating events cornerstone. It also affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. The significance of the finding was evaluated with Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process." Based on the results of the Phase 1 evaluation the finding was determined not to require quantitative assessment because adequate mitigation capability was maintained and the loss of RCS inventory was less than two feet (6.4 percent of pressurizer level). As a result, the finding was determined to have very low safety significance. The finding had crosscutting aspects in the area of human performance because the inadequate procedure directly contributed to the cause of the finding.

Inspection Report# : 2005002*(pdf)*

Significance: G Feb 14, 2005
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate pressurizer spray valve corrective action
A self-revealing finding was identified for the licensee's failure to determine the extent of condition and prevent recurrence of a Unit 2 pressurizer spray valve degraded condition preventing the pressurizer spray valve from fully closing. This deficiency resulted in a manual scram in 2002 and use of operator compensatory actions in 2005 to compensate for reactor coolant system pressure control complications. The licensee performed corrective maintenance on the valve actuator in 2004, but did not inspect the valve, which would have revealed an additional problem.

The finding was considered to be more than minor because if left uncorrected, it would become a more significant safety concern in that an inadvertent depressurization of the RCS could occur, thus increasing the likelihood of an initiating event. Based on the results of the Significance Determination Process, Phase 1 evaluation, the finding was determined to have very low safety significance. Although the deficiency increased the likelihood of a reactor trip, it did not increase the likelihood that mitigating equipment or functions would not be available. This finding also had crosscutting aspects associated with problem identification and resolution, because the condition was not properly corrected when previously identified.

Inspection Report# : 2005002*(pdf)*

Mitigating Systems

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Design Controls for Component Cooling Water Heat Exchanger Tube Plugging
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to implement appropriate design controls when plugging component cooling water heat exchanger tubes. Specifically, plugging heat exchanger tubes constitutes a design change. Criterion III requires the licensee to implement design control measures commensurate with those applied to the original design. The licensee entered the issue into their corrective action program as Action Request 051201123.

The failure to implement appropriate design controls when plugging heat exchanger tubes was a performance deficiency. The issue was more

than minor because, if left uncorrected, it could result in a more significant safety concern, in that the heat exchanger may not be able to meet licensing basis/design basis heat exchanger capabilities. The inspectors assessed the finding in accordance with the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet and determined the finding was of very low safety significance. Specifically, this design deficiency was confirmed not to result in loss of operability in accordance with "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment."

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Calibration Controls for Component Cooling Water Heat Exchanger Test
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XII, "Measuring and Test Equipment Controls," because the licensee failed to maintain test equipment (used during safety related heat exchanger thermal performance testing) controlled and calibrated within specified performance parameters. Consequently, an inaccurate temperature instrument caused some test results to over predict heat exchanger capability by 28 percent. The licensee entered the issue into their corrective action program as Action Request 051100747.

The failure to maintain the accuracy of test instrumentation was a performance deficiency because the accuracy of the instrumentation exceeded the vendor's design specifications. The issue was more than minor because, if left uncorrected, it could result in a more significant safety concern in that the licensee may not detect degraded heat exchanger performance. The inspectors assessed the finding in accordance with the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet and determined the finding was of very low safety significance in that this design deficiency was confirmed not to result in the loss of operability in accordance with "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment." The issue had human performance crosscutting aspects because the plant engineers did not question suspect data.
Inspection Report# : 2005005*(pdf)*

Significance: G Oct 12, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Procedures Results in Loss of Main Steam Isolation System Safety Function
A self-revealing noncited violation of Technical Specification 5.5.1.1 was identified for the failure of maintenance personnel to follow Procedure SO23-II-1.1.2, "Surveillance Requirement, Plant Protection System, Channel B," Revision 6, during surveillance testing of the Unit 2 Channel B plant protection system on October 12, 2005. This failure resulted in the loss of the main steam isolation system function and a portion of the reactor protection system function for approximately one hour. This issue was entered into the licensee's corrective action program as Action Request 051000550.

The finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of human performance and affected the associated cornerstone objective to ensure the availability of the plant protection system to respond to initiating events to prevent undesirable consequences. Using the Phase 1 worksheets in Manual Chapter 0609, "Significance Determination Process," the inspectors determined that a
Phase 2 analysis was required because the finding represented a loss of safety function of portions of the plant protection system. The inspectors performed a Phase 2 analysis using Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," of Manual Chapter 0609, and the Phase 2 worksheets for the San Onofre Nuclear Generating Station. The inspectors assumed that the incorrect setpoints for plant protection system Channels C and D low steam generator pressure were in service for approximately one hour. Based on the results of the Phase 2 analysis, the finding is determined to have very low safety significance. The finding had crosscutting aspects in the area of human performance because the failure of instrumentation and control technicians to follow procedures and the failure of supervision to provide oversight during maintenance activities directly contributed to the cause of the finding.

Inspection Report# : 2005005*(pdf)*

Significance: G Aug 17, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Acceptance Limits for Surveillance Testing
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure to provide procedures that incorporated requirements and acceptance limits for inservice testing. The licensee's use of an inappropriate computer software program resulted in an incorrect determination of acceptability for 14 of 28 surveillance tests. For example, on August 15, 2005, an alert limit was exceeded on charging Pump 3P191 and the issue was not identified until 8 hours after completing the surveillance test. The finding had crosscutting aspects in the area of human performance because the use of the faulty software program by maintenance engineering personnel directly contributed to the cause of the finding. Additionally, this issue had problem identification and resolution crosscutting aspects in that maintenance engineering personnel did not implement timely corrective actions to resolve the software issues.

The finding was determined to be more than minor because it was associated with the human performance attribute of the mitigating systems cornerstone. It also affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, this issue could have resulted in equipment being considered operable even though testing may have demonstrated the equipment was inoperable. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding was determined to have very low safety significance because the finding did not represent an actual loss of a single train of a safety system for greater than its Technical Specification allowed outage time.

Inspection Report# : 2005004*(pdf)*

Significance: G Jun 26, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Maintenance Rule Requirements for SBCS Header Cracks
The inspectors identified a noncited violation of 10 CFR 50.65 (a)(1) for the failure to include component deficiencies of a system important to safety in the maintenance rule program. Specifically, the licensee did not incorporate piping header failures of the Unit 2 and Unit 3 steam bypass control system into the maintenance rule program to ensure appropriate monitoring and goal setting activities were established. This issue was entered into the corrective action program as AR 050200923.

The finding was determined to be greater than minor because it affected the equipment reliability attribute of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding was determined to have very low safety significance because the SBCS did not actually experience a loss of safety function.
Inspection Report# : 2005003*(pdf)*

Significance: G Feb 10, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to prevent recurrence of missing taper pins from Fisher butterfly valves
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified for the licensee's failure to prevent recurrence of the significant condition adverse to quality of missing taper pins from safety-related Fisher butterfly valves. This deficiency, which affected the operability of the component cooling water system, had been identified six times since 1993.

The finding was more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and it affected the cornerstone objective by challenging the availability and capability of the containment spray system. In addition, if left uncorrected, the finding could become a more significant safety concern in that the loss of taper pins would continue to challenge the availability and capability of mitigating systems. Based on the results of the Significance Determination Process Phase 1 evaluation, the finding was determined to have very low safety significance (Green), because it did not result in an actual loss of safety function of the containment spray system. This finding also had crosscutting aspects associated with problem identification and resolution, because the extent of the condition was not properly evaluated.
Inspection Report# : 2005002*(pdf)*

Barrier Integrity

Significance: G Aug 23, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Maintenance Order for the Movement of a Control Element Assembly
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure to follow the instructions in a maintenance order for the movement of equipment in the Unit 2 spent fuel pool. A four finger control element assembly was dropped in the cask area of the spent fuel pool because it had not been properly grappled. This issue involved human performance crosscutting aspects associated with maintenance engineering personnel failing to follow the instructions in a maintenance order.

The finding is determined to be greater than minor because if left uncorrected it could become a more significant safety concern in that failing to follow instructions could impact the safe movement of components in the spent fuel pool, and increase the probability of a fuel handling accident. 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 affects the barrier integrity cornerstone and is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of the spent fuel pool or any of its components.
Inspection Report# : 2005004*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : March 03, 2006