

San Onofre 3

2Q/2006 Plant Inspection Findings

Initiating Events

G**Significance:** Oct 26, 2005

Identified By: NRC

Item Type: FIN Finding

Failure to conduct simulator performance testing

A Green finding was identified for the licensee's failure to conduct simulator performance testing in accordance with ANSI/ANS 3.5, 1998, "Nuclear Power Plant Simulators for Use in Operator Training and Examination." A review of the malfunction tests contained in the annual performance test book for the simulator revealed that several transient parameters did not include all necessary data. In addition, differences in transient parameters between the simulator data and the actual plant data were not documented or justified. This is considered to be a Green finding using the Operator Requalification Human Performance Significant Determination Process (SDP) because it is a requalification training issue related to simulator fidelity. The lack of data affects the ability of the simulator transient tests to detect simulator fidelity issues. It is more than minor because these issues (simulator fidelity) can contribute to human error, which can directly impact the Human Performance attribute for both the Initiating Events and Mitigating Systems Cornerstones. The objectives of these two cornerstones are 1) to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations; and 2) to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, respectively. This is a finding of very low safety significance because the discrepancies have not impacted operator actions in the plant.

This is considered to be a performance deficiency because San Onofre Nuclear Generating Station has committed to conduct testing in accordance with ANSI/ANS 3.5, 1998, as endorsed by Regulatory Guide 1.149, "Nuclear Power Plant Simulation Facilities for Use in Operator Training and License Examinations," Revision 3, October 2001. Specifically, ANSI/ANS 3.5, 1998 specifies that certain key parameters be measured and analyzed. The ANSI standard also specifies that any differences between the simulator data and the actual plant data be analyzed and justified. The performance deficiency is more than minor because inadequate simulator transient tests affects the ability to detect fidelity issues with the simulator, which degrade the Human Performance attribute (human error) of the Initiating Events and Mitigating Systems cornerstones

Inspection Report# : [2005302\(pdf\)](#)G**Significance:** Oct 15, 2005

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Ensure Procedural Compliance During Unit 3 Heat Treat

A self-revealing finding was identified for the failure of operations personnel to adequately monitor circulating water gates in accordance with Procedure S023-5.1.1, "Heat Treating the Circulating Water System," while performing a heat treat of the Unit 3 intake structure. This failure caused Unit 3 condenser vacuum to degrade, prompting operations personnel to reduce reactor power by approximately 6 percent. Operations personnel were counseled on the importance of maintaining attentiveness while performing evolutions which could upset plant stability. This finding was entered into the licensee's corrective action program as Action Request 051000701.

The finding is greater than minor because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability. 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 contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions were not available. The cause of the finding was related to the crosscutting element of human performance in that operations personnel did not ensure that procedural requirements were followed.

Inspection Report# : [2005005\(pdf\)](#)G**Significance:** Aug 02, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Surveillance Procedure Results in Inadvertent Reactivity Addition

A self-revealing, noncited violation of Technical Specification 5.5.1.1 was identified for the failure to follow procedural requirements during surveillance testing of the Unit 3 steam generator blowdown processing system. This failure resulted in the blowdown flow control valve going to the full open position and an inadvertent reactivity addition to Unit 3. The finding had crosscutting aspects in the area of human performance because the failure of instrumentation and control technicians to follow the procedure directly contributed to the cause of the finding. This issue was entered into the licensee's corrective action program as Action Requests 050800099 and 050800114.

The finding was determined to be more than minor because it was associated with the human performance attribute of the initiating events cornerstone. It also affected the cornerstone objective of limiting the likelihood of events that upset plant stability. 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 contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available.
Inspection Report# : [2005004\(pdf\)](#)

Mitigating Systems

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Significance: Mar 25, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Safety Injection Tank Manway Gaskets

A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for the failure to select an appropriate replacement gasket for the Units 2 and 3 safety injection tank manways. The inadequate gaskets buckled during installation and began to unravel. The Unit 2 safety injection Tank 2T008 discharge check Valve 2MU040 failed to fully close when an unraveled gasket wrapped itself around the valve internals. This issue has been entered into the licensee's corrective action program as Action Request 060301594.

The finding was determined to be more than minor because, if left uncorrected, it would become a more significant safety concern in that the inadequate gaskets would likely continue to unravel, possibly introducing foreign material into the safety injection tanks. The finding affected the mitigating systems cornerstone. Using 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 the safety function of either Units' emergency core cooling system.

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

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Significance: 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\(pdf\)](#)

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Significance: 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. This issue was entered into the licensee's corrective action program as Action Request 050800238.

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\(pdf\)](#)

Barrier Integrity

Significance:  Oct 22, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure Results in Inadvertent Loss of Containment Cooling

A self-revealing noncited violation of Technical Specification 3.6.6.1 was identified for the Unit 3 containment emergency cooling units being inoperable for longer than the allowed outage time of 72 hours. The implementation of inadequate procedures, specifically Procedure SO23-3-3.13, "Containment Cooling/Spray Monthly Tests," resulted in containment fan cooler breakers having improper overcurrent setpoints. The procedures were revised and the containment cooler fan breakers were adjusted to their proper setpoints. This issue has been entered into the licensee's corrective action program as Action Request 051000020.

The finding is greater than minor because it is associated with the procedure quality attribute of the barrier integrity cornerstone. It also affected the cornerstone objective of ensuring the integrity of the reactor containment. The Phase 1 worksheets in Manual Chapter 0609, "Significance Determination Process," were used to conclude that an Appendix H "Containment Integrity Determination Process," analysis was required because the finding involved an actual reduction in defense-in-depth for the atmospheric pressure control of the reactor containment. Table 4.1 of Appendix H of Manual Chapter 0609 indicated that the containment cooling safety function can impact late containment failure and source terms, but not large early release frequency. Based on the results of the Appendix H analysis, the finding is determined to have very low safety significance. The cause of the finding is related to the crosscutting element of human performance in that maintenance personnel did not ensure the correct breaker overcurrent tolerances were incorporated into surveillance and postmaintenance testing procedures.

Inspection Report# : [2005005\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

Last modified : August 25, 2006