

South Texas 2

2Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Apr 06, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

Human Performance Error Hanging an Equipment Clearance Order

The inspectors reviewed a self-revealing finding for a failure to follow procedure, which resulted in losing power to Load Center 2G2 and subsequently the running stator cooling water pump, which would have resulted in a main turbine/reactor trip had the standby stator cooling water pump not auto started. The plant operator opened Breaker 2G2/3B, the supply breaker to Load Center 2G2, instead of Breaker 2G2/3C, the power supply to the condenser air removal system Pump 23. Just before opening the breaker, the plant operator took his eyes off the breaker to bend down and read the breaker racking procedure and the equipment clearance order. Upon standing up, the plant operator did not ensure that he was manipulating the correct breaker and inserted the breaker racking tool into the wrong breaker.

This finding was more than minor because it was associated with the initiating events cornerstone attribute of human performance and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The inspectors evaluated the finding using the Significance Determination Process Phase 1 screening and determined it to be of very low safety significance (Green) because, although the likelihood of a reactor trip increased, the likelihood that mitigating systems would not be available did not increase. This issue also had human performance crosscutting aspects associated with work practices in that personnel involved failed to follow the procedure due to inadequate human error prevention techniques, such as self and peer checking.

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

Significance:  Jul 07, 2006

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Main Generator Reactive Power Test Procedure

A self-revealing finding was identified for the failure to provide an adequate procedure, which resulted in an unexpected initiation of a “Generator U/F (Under-Frequency) Loss of Field Voltage” alarm. This alarm would have caused a generator/turbine/reactor trip in 30 seconds. Prompt action by the operators to terminate the test prevented the trip. The licensee performed a thorough root cause of the event to determine the short and long term corrective actions.

This finding was greater than minor because it was associated with the procedure quality attribute affecting the Initiating Event Cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. This finding was determined to be a finding of very low safety significance because, although the likelihood of a reactor trip increased, the likelihood that mitigating systems would not be available did not increase and no transient actually occurred

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

Mitigating Systems

Significance:  Apr 06, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Improper Maintenance Results in Damage to a HHSI Pump Resulting in NOED

The inspectors reviewed a self-revealing noncited violation of Technical Specification 6.8.1.a for failure to follow Procedures STI 32013741, "Conduct of Maintenance," dated May 15, 2006, and 0PMP04-SI-0002, "High Head Safety Injection Pump Maintenance." On November 27, 2006, the Unit 2 high head safety injection Pump 2A was declared inoperable in order to replace the mechanical seal. The craftsmen encountered several clearance (tolerance) problems trying to remove various parts of the pump. Instead of recognizing the unexpected conditions as adverse and stopping work, the craftsmen and their supervisor continued to troubleshoot the pump outside of the prescribed procedural steps. As a result, the pump was damaged and the licensee requested, which the NRC granted, enforcement discretion to prevent a required Technical Specification shutdown. This event demonstrated improper maintenance practices as outlined in the conduct of maintenance procedure, specifically, ". . . If at any time a conflict arises, unexpected conditions develop, the job instructions are unclear, or the work cannot be performed as planned, stop the job."

The inspectors determined that the violation was more than minor because it was associated with the mitigating systems cornerstone attribute of equipment and human performance, and it affected the cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Furthermore, the performance deficiency would have resulted in a Technical specification shutdown if not for the Notice of Enforcement Discretion. The inspectors evaluated the violation using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, and determined that it resulted in Phase 2 analysis due to a single train inoperable for longer than its TS allowed outage time. The Phase 2 analysis screened as Green. This finding also had human performance crosscutting aspects associated with work practices in that the licensee did not clearly define and effectively communicate expectations regarding procedural compliance and personnel following procedures.

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

Barrier Integrity

Significance:  Oct 12, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedural Guidance for Verifying Control Room Ventilation Doors are Secured

The inspectors identified three examples and the licensee identified one example of a noncited violation of Technical Specification 6.8.1.a for the failure to provide an adequate procedure to ensure that doors, which provide access through the control room envelope/heating, ventilation, and air conditioning system were properly closed and latched, and controlled and maintained. The licensee rolled up all the recent door failures into two condition reports, one to address the mechanical aspects and another to address the human performance aspects.

The inspectors determined that having an inadequate procedure for the control of doors that encompass the control room envelope system to be a performance deficiency. This finding is greater than minor because it affected the barrier integrity attribute of procedure quality under maintaining radiological barrier functionality of the control room and it affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events by maintaining the operational capability of the control room envelope heating, ventilation, and air conditioning boundary. Using the Phase 1 worksheets in Inspection Manual Chapter 0609, "Significance Determination Process," the issue was determined to have very low safety significance because the finding only represented a degradation of the radiological barrier function for the control room. In addition, this finding had a crosscutting aspect with respect to problem identification and resolution in that the licensee did not fully evaluate and assess information from the corrective action program in the aggregate to identify programmatic and common cause problems as a result of having an inadequate procedure for the operation and maintenance of the control room envelope doors.

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

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Oct 05, 2006

Identified By: NRC

Item Type: FIN Finding

Corrective Action Program Assessment

The inspectors reviewed approximately 253 condition reports, 23 work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. Overall, the team identified that the licensee was effective at identifying problems and putting them into the corrective action program. The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and assessments were found to be effective and highlighted a similar concern in the root cause area.

Operating experience usage was also found to be effective. Self assessment results adequately identified problems and proposed corrective actions to address these problems. On the basis of interviews conducted during this inspection, the team found that in general workers at the site felt free to input safety findings into the corrective action program, raise nuclear safety concerns to their supervision, bring concerns to the employee concerns program, and bring concerns to the NRC. During interviews, licensee personnel generally expressed confidence that nuclear safety issues that were entered into the corrective action program would be appropriately addressed. However, NRC's final assessment of the safety conscious work environment at is still under NRC review, pending final resolution of 10 CFR 2.206 petition.

During interviews, licensee personnel expressed confidence that nuclear safety issues that were entered into the corrective action program would be appropriately addressed. The inspectors found that the licensee's employee concerns program appropriately identified and adequately addressed nuclear safety concerns. The team concluded that overall a positive safety-conscious work environment existed at the South Texas Project Electric Generating Station.

Inspection Report# : [2006009](#) (*pdf*)

Last modified : August 24, 2007