

# South Texas 2

## 2Q/2008 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jul 06, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Improper Turbine Load Rate Manipulation Results in Unexpected Power Reduction**

The inspectors reviewed a self-revealing noncited violation of Technical Specification 6.8.1.a for the failure to follow Procedure 0POP03-ZG-0006, "Plant Shutdown from 100% to Hot Standby," Revision 28. As part of the shutdown, operations personnel are directed to reduce turbine load at the desired ramp rate by adjusting the load rate thumbwheel. However, during the evolution the thumbwheel was inadvertently moved in the wrong direction, thereby causing the turbine load rate to change from 0.25 percent/min to 200 percent/min. This resulted in a transient on the plant causing reactor power to lower by about 6 percent rated thermal power and average coolant temperature to rise by about 2.3 °F.

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 challenged critical safety functions during power operations. 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 was 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. This issue also had human performance crosscutting aspects, in the area of decision-making, because the licensee had not conducted effectiveness reviews of safety-significant decisions to verify the validity of the underlying assumptions, identify possible unintended consequences, and determine how to improve future decisions (H.1(b)). The licensee had previously evaluated most turbine control manipulations as 'skill of the craft' and did not identify the potential challenge to reactivity management. This was reflected in the manner in which the turbine was operated, always in the 'go' setting, and that the 200 percent/min position had not been previously eliminated as it served no operational function. This directly contributed to the resultant plant transient.

Inspection Report# : [2007003](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jan 22, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Specify Setpoint Calibration Limits in Relay Setpoint Calculations**

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance for the failure to specify in a design calculation allowable relay setpoint tolerances.

Specifically, the licensee failed to specify and verify in the relay setpoint calculations the relay setpoint tolerances used in the calibration test procedures. The issue was documented in the corrective action program as Condition Record 07-15443.

The finding was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Design Control." It impacts the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events and prevent undesirable consequences. The failure to verify the effects of relay setpoint tolerances on relay coordination time intervals could have resulted in a loss-of-relay coordination and could lead to either a loss of power to safety-related components or lead to a potential for compromising other equipment on a single fault that the relay was designed to isolate. Using Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1

screening, the finding screened as having very low safety significance (Green) because the condition did not represent a loss of safety function of a system or a train.

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

**Significance:**  Jan 22, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Manual Loads not Considered for Fuel Oil Storage Tank Sizing Calculation**

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance for the failure to include all potential loads in the standby diesel generator fuel oil sizing calculation. Specifically, the licensee did not account for increased standby diesel generator fuel oil usage resulting from the addition of manual electrical loads during the 7-day mission run time. The licensee entered this finding into their corrective action program as Condition Record 07-15592. The licensee subsequently demonstrated that the spent fuel pool cooling pumps would be the only additional manual loads actually used during the 7 days of operation in the bounding design basis scenario and that there were additional conservative assumptions in the sizing calculation to demonstrate sufficient margin.

The finding was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Design Control." It impacts the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events and prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the finding screened as having very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in loss of operability or functionality.

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

**Significance:**  Jan 22, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Use Correct Design Inputs in Determination of the Weak Link for the Auxiliary Feedwater System Outside Containment Isolation Motor Operated Valves**

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria III, "Design Control," of very low safety significance for the failure to translate design basis information into specifications and procedures. Specifically, a non-conservative system pressure was used as an input to an engineering design calculation for the auxiliary feedwater outside containment isolation valves. This finding has been entered into the licensee's corrective action program as Condition Record 07-15455.

The finding was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Design Control." It impacts the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events and prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the finding screened as having very low safety significance (Green) because it did not represent a loss safety function of a system or a train.

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

**Significance:**  Jan 22, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Surveillance Procedure Lacked Check for Timing of Chiller Loading on the Bus**

The team identified a noncited violation of Technical Specification Surveillance Requirement 4.8.1.1.2.E.11, having very low safety significance for the licensee's failure to adequately perform the technical specification surveillance requirement. Specifically, the licensee failed to verify the loading times of the essential chillers in order to verify the automatic load sequence timer was operable. This issue was entered into the licensee's corrective action program as Condition Records 07 14903 and 07-14959.

The finding was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Design Control." It impacts the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events and prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the finding screened as having very low safety significance (Green) because it did not represent a loss of safety function of a system or a train.

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

**Significance:**  Jan 22, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Test Program for 125V DC Molded Case Circuit Breakers**

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," having very low safety significance for the licensee's failure to implement a test program to assure that all installed safety-related molded case circuit breakers will perform satisfactorily in service. Specifically, the licensee had not adequately exercised or subjected to periodic testing all of the 125V dc molded case circuit breakers since initial plant operation. The licensee entered the finding into their corrective action program as Condition Record 07-15817.

The finding was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Equipment Performance." It impacts the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events and prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the finding screened as having very low safety significance (Green) because it did not result in a loss of safety function of a system or a train.

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

**Significance:**  Jan 22, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Incorporate Instrument Uncertainties into Surveillance Requirements for Technical Specification Limiting Condition for Operation 3.5.2 (Specifically Surveillance Requirement 4.5.2.f)**

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria III, "Design Control," of very low safety significance for the failure to adequately translate design basis information into specifications and procedures. Specifically, measurement instrument uncertainties were not included in the determination of minimum allowed high head safety injection pump and low head safety injection pump developed head values used during periodic technical specification surveillance testing. The licensee entered the finding into their corrective action program as Condition Record 07-15752.

The finding was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Design Control." It impacts the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events and prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the finding screened as having very low safety significance (Green) because it did not result in a loss of safety function of a system or a train.

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

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## **Barrier Integrity**

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## **Emergency Preparedness**

# Occupational Radiation Safety

**Significance:**  Jul 06, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

## **Two Examples of a Failure to Conspicuously Post and Barricade a High Radiation Area**

The inspector identified two examples of a noncited violation of Technical Specification 6.12.1 because the licensee failed to conspicuously post and barricade two separate high radiation areas. On April 19, 2007, during a tour of the reactor containment building, the inspector observed the entryways to the steam generator and pressurizer cubicles were not conspicuously posted or barricaded. The licensee's corrective action was to post and barricade these two areas.

This finding was more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process, and affected the cornerstone objective to ensure the adequate protection of a worker's health and safety from exposure to radiation because it could have resulted in workers being exposed to higher radiation levels. When processed through the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it was not an as low as is reasonably achievable finding, there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. In addition, this finding had a human performance crosscutting aspect, associated with work practices, because the licensee failed to define and effectively communicate expectations about procedural compliance (H.4(b)). The licensee's common cause report, Condition Report 07-7030, concluded that the station had not taken the appropriate steps to ensure that workers' respect for radiation protection procedural compliance, boundary rigor, and reasons for radiation control were effectively communicated.

Inspection Report# : [2007003](#) (*pdf*)

**Significance:**  Jul 06, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

## **Failure to Obtain Authorization to Enter a High Radiation Area**

The inspector reviewed a self-revealing noncited violation of Technical Specification 6.8.1 because of a failure to follow procedural and radiation work permit requirements. On April 4, 2007, a worker entered a high radiation area without authorization, did not obtain a health physics briefing, and was not aware of the radiation protection controls established by the radiation work permit instructions. The licensee's corrective actions were to counsel the worker and brief associated maintenance and craft personnel about adhering to procedures and radiation work permit requirements.

This finding was more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process, and affected the cornerstone objective to ensure the adequate protection of a worker's health and safety from exposure to radiation because it resulted in the worker being exposed to higher radiation levels. When processed through the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it was not an as low as is reasonably achievable finding, there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. In addition, this finding had a human performance crosscutting aspect, associated with work practices, because the licensee failed to ensure adequate supervisory and management oversight of work activities, including contractors, such that radiological safety was supported (H.4(c)). The licensee's common cause report, Condition Report 07-7030, concluded that the station did not have enough supervisors or radiation protection technicians in the field, in addition to management not consistently applying learning center requirements.

Inspection Report# : [2007003](#) (*pdf*)

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# Public Radiation Safety

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# 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.

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## Miscellaneous

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