

# South Texas 1

## 1Q/2007 Plant Inspection Findings

---

### Initiating Events

---

### Mitigating Systems

**Significance:**  Apr 07, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Motor-Operated Valve Operation Method**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix R, Section III.L.3, in that the method used to position motor-operated valves ("hot-sticking") following a fire in the control room was not independent of the fire area. Specifically, a portion of each valve control circuit was located in the control room. A fire affecting those circuits could result in mal-operation or over-thrusting of the valves.

The failure to ensure that all circuits relied on for safe shutdown in response to a control room fire were free of the fire area was a performance deficiency. The issue was more than minor because it affected the reliability objective of the Equipment Performance attribute under the Mitigating Systems Cornerstone. Specifically, motor-operated valves that are relied upon to achieve post fire safe shutdown were less because parts of their control circuits could be damaged by the fire. A Senior Reactor Analyst evaluated the safety significance of this finding using Manual Chapter 0609, "Significance Determination Process," Appendix F, and determined that the finding constituted a low level of degradation for post fire safe shutdown equipment. Therefore, the finding was of very low safety significance.

Inspection Report# : [2006002](#) (*pdf*)

**Significance:**  Apr 07, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Alternate Shutdown Analysis**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix R, Section III.L.1 because the thermohydraulic analysis was inconsistent with actions allowed in the South Texas Project licensing basis for a control room evacuation. Specifically, the analysis inappropriately credited certain manual actions from the control room that are required to be performed in the field.

The failure to have an adequate written evaluation available for a control room fire scenario was a performance deficiency. This issue was more than minor because it affected the Mitigating Systems cornerstone attributes of protection from external factors (fire). The inadequate analysis over-estimated the amount of time available when accomplishing shutdown actions and, during walkdowns, the inspectors could not verify compliance with the requirements. A Senior Reactor Analyst evaluated the safety significance of this finding using Manual Chapter 0609, "Significance Determination Process," Appendix F, and determined that the finding constituted a low level of degradation for post fire safe shutdown analysis. Therefore, the finding was of very low safety significance.

Inspection Report# : [2006002](#) (*pdf*)

---

### Barrier Integrity

**G****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

**G****Significance:** Dec 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to Monitor and Control Workers' Exposure in a High Radiation Area.**

The inspector reviewed a self revealing, non-cited violation of Technical Specification 6.12.1.b. for failure to monitor and control workers' dose in a high radiation area. Two contract support workers for nozzle dam removal were not able to read their electronic dosimeter due to poor lighting and personal protective equipment. A radiation protection technician in the area was also unable to read one of the worker's electronic dosimeter, but allowed the work to continue. In addition, one of the worker's received an electronic dosimeter alarm which was not heard until the worker exited the area. As an immediate corrective action, the individuals involved were counseled and received remedial high radiation area refresher training.

The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to monitor and control workers' dose in a high radiation area lead to additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a cross-cutting aspect in human performance associated with work practices because the workers and associated radiation protection personnel did not use human error prevention techniques such as not proceeding in the face of uncertainty or unexpected circumstances

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

**Significance:** Oct 12, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Comply with a Radiation Work Permit Requirement**

A self-revealing noncited violation was identified for the failure to comply with a radiation work permit requirement. On July 13, 2006, a maintenance technician alarmed the personnel contamination monitors upon exiting the radiologically area, due to contamination on his hands, shoes, and clothing. Operations requested maintenance technician assistance in determining and correcting unexpected flow indications on a Low Head Safety Injection Pump 1B. The technician successfully returned the low scale flow indicator to service; however, the high scale flow indicator was still indicating an unexpected reading. The technician then decided to vent the high side flow indicator to bring the reading within range, but failed to do so in accordance with the radiation work permit. The failure to follow the radiation work permit resulted in an area and personnel contamination.

This finding was considered more than minor as it was associated with the occupational radiation safety attribute of program and process and it affected the cornerstone objective to ensure adequate protection of the worker's health and safety from exposure to radiation. The failure to comply with the radiation work permit requirements resulted in the low-level contamination of one worker and an area approximately 100 square feet. This finding was determined to be of very low safety significance because it did not involv (1) as low as reasonably achievable planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding had a crosscutting aspect with respect to human performance in that the worker did not maintain procedural compliance due to an inadequate prejob brief and self and peer checking techniques.

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

---

## **Public Radiation Safety**

---

### **Physical Protection**

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

---

## **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 : June 01, 2007