

## South Texas 2 4Q/2013 Plant Inspection Findings

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### Initiating Events

**Significance:** G Dec 31, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to Maintain Licensed Operator Examination Integrity**

A self revealing Green noncited violation of 10 CFR Part 55.49, "Integrity of Examinations and Tests," was identified for the failure of operations training personnel to ensure the integrity of an operating test scheduled for administration for an initial licensing examination scheduled for the week of September 30, 2013. This failure resulted in a potential compromise of examination integrity, but did not lead to an actual compromise of the administered examination.

This finding was more than minor because it would have affected examination integrity had it not been detected. However, because no actual compromise of examination integrity occurred, the finding was determined to have very low safety significance. This finding had a cross-cutting aspect in the area of human performance associated with work practices because the licensee did not properly self- and peer check to ensure a potential compromise of examination materials would not occur [H.4(a)].

Inspection Report# : [2013301](#) (*pdf*)

**Significance:** G Dec 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Include Appropriate Acceptance Criteria in a Quality Procedure**

The inspectors identified a non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, the licensee did not include sufficient criteria to identify and evaluate new critical tasks created for operator performance on the simulator scenario portion of the biennial requalification examination to enable the evaluators to correctly assess licensed operator performance. The licensee has entered this issue into their corrective action program as Condition Report 2013-13857.

The failure to include appropriate qualitative acceptance criteria in Procedure LOR-GL-002, to ensure evaluators can correctly identify and evaluate critical tasks based on operator performance was a performance deficiency. The performance deficiency was more than minor, therefore, a finding, because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, the failure to include the appropriate criteria to identify and evaluate critical tasks during biennial requalification examinations could result in operators returning to licensed operator duties without being properly remediated and retested on performance deficiencies. Using Manual Chapter 0609, Attachment 0609.04, Appendix I, "Operator Requalification Human Performance Significance Determination Process," starting at block 9, the finding was determined to be of very low safety significance (Green) because the finding is associated with licensee administration of an annual requalification operating test. The finding had a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee failed to make safety-significant or risk-significant decisions using a systematic process [H.1(a)].

Inspection Report# : [2013005](#) (pdf)

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: FIN Finding

### **Flawed Job Performance Measures**

The inspectors identified a finding of very low safety significance for developing and administering an excessive number of flawed job performance measures during the 2012 and 2013 NRC annual operating tests, which resulted in invalidating several operators' NRC annual operating tests. The inspectors reviewed all of the job performance measures that were developed and/or administered to the licensed operator staff for their annual operating tests. Greater than 20 percent of the job performance measures reviewed for both 2012 and 2013 were deemed to be flawed and inappropriate for an NRC-required operating test. This invalidated the operating tests for some of the licensed operators in both years. As part of their corrective action, Condition Report 2013-10673, the licensee retested the operators that were affected after the 2013 test, and analyzed the effect on site-wide human performance errors that the affected operators may have had after the 2012 operating test—there was no increase in human performance errors attributable to taking the flawed 2012 operating test.

Using Inspection Procedure 71111.11, Appendix C, “Annual Requalification Operating Test Quality,” more than 20 percent of the annual operating test job performance measures developed in 2012 and 2013 were flawed; therefore, this was a performance deficiency. In accordance with Manual Chapter 0612, “Power Reactor Inspection Reports,” the performance deficiency was more than minor, therefore, a finding because it affected the Initiating Events Cornerstone attribute of Human Performance, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609, Attachment 0609.04, Appendix I, “Operator Requalification Human Performance Significance Determination Process,” starting at block 6, the finding was determined to be of very low safety significance (Green) because: the finding involved operating test quality; less than 40 percent of the job performance measures were flawed; and less than 40 percent of the simulator scenarios were flawed. In addition, the NRC determined the finding had a human performance cross-cutting aspect associated with decision-making because the licensee did not use conservative assumptions in decision making when developing the flawed job performance measures that invalidated several operators' annual operating tests [H.1(b)].

Inspection Report# : [2013005](#) (pdf)

## **Mitigating Systems**

**Significance:**  Mar 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **Use of Non-Conservative Values in Reportability Evaluation**

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure to follow Procedure OPGP04-ZA-0002, “Condition Report Engineering Evaluation,” Revision 18. On February 25, 2013, cavitation damage was discovered during a scheduled inspection of train C essential cooling water return throttle valve to the component cooling water heat exchange valve 2-EW-0101. A reportability review was performed by civil and mechanical design engineering personnel using Procedure OPGP04-ZA-0002. Step 3.0 of this procedure stated that the engineering supervisor and the preparer are responsible for

ensuring that the evaluation is technically and administratively correct. The inspectors determined that the evaluation was not technically correct because non-conservative values were used for carbon steel, and there was no discussion on aluminum bronze. The licensee entered this issue into the corrective action program as Condition Report 13-3170. Corrective actions included revising the original evaluation, generating a lessons learned for the engineering department, and creating an action item to evaluate revising the procedure to more clearly define roles and responsibilities for cross discipline evaluations.

This finding was more than minor because it affected the Mitigating Systems Cornerstone attribute of Human Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, using non-conservative values in a reportability evaluation which resulted in significant calculational errors requiring the evaluation be revised. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609 because the finding affected the Mitigating Systems Cornerstone while the plant was at power. Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, evaluates the finding using Appendix A. Using Appendix A, Exhibit 2, Mitigating Systems Screening Questions, the finding was determined to be of very low safety significance because it was not a design or qualification issue confirmed not to result in a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; and did not result in the loss of one or more trains of nontechnical specification equipment. In addition, the NRC determined the finding had a human performance cross-cutting aspect, associated with work practices, because error prevention techniques such as self and peer checking were not performed commensurate with risk of the assigned task [H.4(a)].

Inspection Report# : [2013002](#) (*pdf*)

**Significance:**  Oct 31, 2012

Identified By: NRC

Item Type: VIO Violation

**Failure to Timely Correct Conditions Adverse to Fire Protection**

The team identified a violation of License Condition 2.E for the failure to correct a noncompliance. Procedure 0POP04-ZO-0001, "Control Room Evacuation," Revision 35, was not consistent with the post-fire safe shutdown analysis in that it failed to ensure the actions met critical time requirements. The licensee failed to implement timely corrective actions to correct this deficiency. Inspection Report 05000498/2011006 and 05000499/2011006 documented a violation involving the failure to implement and maintain in effect all provisions of the approved fire protection program. During this inspection, the team identified that the licensee had failed to restore compliance with its license condition within a reasonable time.

The licensee's failure to implement timely corrective actions to correct conditions adverse to fire protection as required by its Operations Quality Assurance Plan is a performance deficiency. This performance deficiency was of more than minor safety significance because it was associated with the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events (such as fire) to prevent undesirable consequences. Specifically, the licensee failed to ensure reliability of its post-fire safe shutdown systems by demonstrating that it could achieve safe shutdown following a fire in the control room by using approved actions. The significance of this finding could not be evaluated using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because the performance deficiency involved a control room fire that led to control room evacuation. A senior reactor analyst determined that the upper bound for the overall change in core damage frequency that resulted from this performance deficiency was 2.702E-7/yr and was not significant with respect to large early release frequency. The analyst therefore determined that this performance deficiency was of very low risk significance (Green). The team determined that the

performance deficiency had a cross-cutting aspect in the corrective action component of the problem identification and resolution cross-cutting area because the licensee did not thoroughly evaluate the problem such that resolutions addressed the cause. Specifically, the licensee failed to take adequate corrective actions to ensure that operators could perform all necessary manual actions as approved prior to exceeding the regulatory requirements (P.1(c)).

Inspection Report# : [2012007](#) (*pdf*)

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## Barrier Integrity

**Significance:**  Jun 29, 2013

Identified By: NRC

Item Type: FIN Finding

### Inadequate Design Calculations for Spent Fuel Pool Mitigation Strategies

The inspectors identified a Green finding for the licensee's failure to follow Procedure OPGP04-ZA-0307, "Preparation of Calculations," Revision 4. Specifically, two parts were not followed, step 3.1.5.4 states all design calculations SHALL be identified AND their sources indicated by providing an adequate title/description; and step 3.2.2 which instructs performing a peer check review of the calculation for completeness, clarity, and accuracy. As part of a routine walkdown of the spent fuel pool area, the inspectors identified several issues of concern regarding the licensee's spent fuel pool mitigation strategy equipment which implements the fill and/or spray strategy. Specifically, the as-designed equipment did not match the as-installed configuration and the as-designed calculations did not account for standard engineering practices to ensure that all calculation considerations were taken into account. The licensee captured these issues in Condition Reports 13-3767 and 13-5006. Corrective actions included updating the calculations to include standard engineering practices and ensuring that the design matched the as-installed configuration.

The failure to follow Procedure OPGP04-ZA-0307 to ensure an adequate design calculation and review for accuracy was a performance deficiency. This finding was more than minor because it adversely affected the design control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers such as fuel cladding protect the public from radionuclide releases caused by accidents or events. The inspectors performed the significance determination process using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," which evaluates the finding using Appendix L, "B.5.b Significance Determination Process", "Table 2 - Significance Characterization," and determined the finding was of very low safety significance because the finding did not result in an unrecoverable mitigating strategy due to the unavailability of post-accident cooling systems for the spent fuel pool. No cross-cutting aspects are assigned to this finding because the calculations were performed in 2007 and 2008 and are not considered indicative of current performance.

Inspection Report# : [2013003](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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### Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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### Miscellaneous

Last modified : February 24, 2014