South Texas 2
1Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Pressure Testing of the Reactor Vessel Flange Leak-Off Lines
Inspectors identified a non-cited violation of 10CFR50.55a(g)(4) involving the licensee's failure to perform a system pressure test of the reactor vessel flange leak-off line of Units 1 and 2, in accordance with the applicable edition of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. Contrary to the above, prior to November 1, 2012, the licensee failed to perform the required pressure test of the reactor vessel flange seal leak-off line for both units. Specifically, the licensee failed to implement the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Class 2 requirements for pressure retaining components as provided by Article IWC 5220, "System Leakage Test." The licensee entered the finding into their corrective action program as Condition Report 12-28600.

The inspectors determined that the licensee's failure to perform a pressure test of the reactor vessel flange leak-off line was a performance deficiency. This finding was more than minor because it affected the Initiating Events Cornerstone attribute of Equipment Reliability and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions. Using Manual Chapter 0609, Attachment A, "The Significant Determination Process (SDP) for Findings At-Power," the finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, and did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function. This issue did not have a cross-cutting aspect associated with it because it is not indicative of current performance.
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Adequate Fire Penetration Seal Material Thickness
The inspectors identified a non-cited violation of Technical Specification 6.8.1.d, "Fire Protection Program Implementation," for the failure to follow work order package instructions requiring the use of Drawing C012- 00081-F7F, "Detail "E-1" Silicone Elastomer Typical Electrical Pen. Seals (Walls & Floors)," to establish 6 inches of fire retardant sealant material for penetrations in Units 1 and 2. The inspectors noticed that Unit 1 train B safety-related 4160 Vac switchgear room electrical penetration F4476 had gaps around the edge. A design change installed new electrical cables that required the penetration be sealed using work order package 139376, that stated "the penetration seal WILL BE IAW the Penetration Seal Permit and detail Drawing C012- 00081-F7F." During the repair activities to correct the gaps, it was discovered that a portion of the seal was only 4.5 inches. The licensee captured this issue as Condition Report 12-28283. Corrective actions included restoring the seal to 6 inches, performing additional analysis to support a 3-hour fire barrier with just 5 inches, and performing extent of condition inspections.

The finding was more than minor because it was associated with the Initiating Events Cornerstone attributes of Design

Control and Procedure Quality, and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions because it resulted in multiple fire penetration seals being declared nonfunctional as a result of being less than the design thickness. The inspectors used Manual Chapter 0609, Attachment 0609.04, to determine that fire protection issues are processed through Appendix F, "Fire Protection Significance Determination Process," dated February 28, 2005. The inspectors used Appendix F, Attachment 1, to determine that the finding was of very low safety significance because it was a Moderate A fire confinement issue that screened out using Task 1.3.2 questions, since the seals would still have provided a 2-hour fire endurance rating or a 20 minute fire endurance rating without the seal being subject to direct flame impingement. In addition, this finding had human performance cross-cutting aspects associated with work practices because the licensee did not communicate human error prevention techniques such as self and peer checking, commensurate with the risk, such that the work activity was performed safely [H.4(a)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 28, 2012
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate Procedure Results in Stator Cooling Water Coil Damage and Main Generator Trip
The inspectors reviewed a self-revealing finding for the failure to follow Procedure 0POP02-GG-0001, "Generator Hydrogen and Carbon Dioxide Gas System," Revision 43, for a verified alarm on the Unit 2 main generator. On November 26, 2011, the Unit 2 control room received a stator cooling water differential temperature high alarm. The crew responded by reviewing the annunciator response and determined that none of the parameters for contacting system engineering were reached. On November 27, 2011, the control room
received multiple generator condition monitor alarms and determined that the generator condition monitor system was malfunctioning, and generated a condition report. The generator condition monitor began to alarm again, on November 29, 2011, but since the control room thought the system was not functioning properly, they did not perform any of the required actions of Procedure 0POP02-GG-0001. Shortly after the alarms were received, the Unit 2 reactor tripped due to a main generator lockout, documented in Condition Report 11-28753. Corrective actions included: replacing all 72 stator cooling coils, refurbishing the stator and rotor, replacing the hydrogen cooler, revising the procedure, and operations training.

This finding was more than minor because it affected the Initiating Events Cornerstone attribute of Procedure Quality and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions in that it resulted in a turbine/reactor trip. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609. Because the finding affected the Initiating Events 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 1, Transient Initiators question, the finding was determined to be of very low safety significance because it did not cause a reactor trip and the loss of mitigation equipment. This finding did not have cross-cutting aspects because the generator condition monitor alarm portion of the procedure was last changed in 2005 and this was the last time that could be reasonably viewed to have identified the deficiency and therefore was not indicative of current licensee performance.
Inspection Report# : 2012004 *(pdf)*

Significance: G Jun 29, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Report a Condition Prohibited by Technical Specifications
The inspectors identified a non-cited violation of 10 CFR 50.73(a)(2)(i)(B) for the failure to report a condition prohibited by technical specifications to the NRC within 60 days. Specifically, on March 6, 2012, after reviewing licensee records, the inspectors informed the licensee that a violation of Technical Specification 3.4.1.4.2.b had

occurred during the Unit 2 spring 2010 Refueling Outage 2RE13, because valves which isolated an unborated water source were not locked in the closed position. The licensee's corrective action included revising the reportability procedures to ensure that both units are addressed in the future.

The failure to report the occurrence of a condition prohibited by technical specifications is a performance deficiency which impacted the regulatory process and is a violation of NRC requirements. The violation was processed using traditional enforcement and determined to be a Severity Level IV violation consistent with Section 6.9 of the Enforcement Policy dated June 7, 2012.
Inspection Report# : 2012003 *(pdf)*

Mitigating Systems

Significance: G 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, Criteron V, "Instructions, Procedures, and Drawings," for the failure to follow Procedure 0PGP04-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 0PGP04-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: G 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)*

Significance: G Sep 28, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Correct a Condition Adverse to Quality
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee failed to correct a longstanding leak from the body-to-bonnet gasket on the safety injection system hot leg check valve 1N122XSI0010A, a portion of the reactor coolant system Class 1 pressure boundary.

This finding was more than minor because it affected the Mitigating Systems Cornerstone. 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. This issue has been entered into the licensee's corrective action program as Condition Report 11-23693. Because the licensee evaluated the condition during the recent refueling outage in November 2011 prior to NRC involvement and considered actions to repair the seal cap enclosure

weld adequate without considering the condition of the pressure retaining boundary, this issue was considered indicative of current plant performance. In addition, this finding had a human performance cross-cutting aspect associated with decision making, because the licensee failed to use
conservative assumptions when making decisions and did not demonstrate that nuclear safety was an overriding priority [H.1(b)].
Inspection Report# : 2012004 *(pdf)*

Barrier Integrity

Significance: G Jun 29, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify Conditions Adverse to Quality
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the failure to promptly identify conditions adverse to quality. Specifically, on May 21, 2012, the inspectors observed water was dripping from the isolation valve cubicle roof at several drops per minute and informed Unit 1 and 2 operations personnel to investigate further. The licensee confirmed that train C and D steam generator power operated relief valves in each unit were leaking steam directly to the atmosphere. The licensee entered the conditions into the corrective action program and plans to repair the valves at the next available opportunity.

The finding is more than minor because it is associated with the Barrier Integrity Cornerstone attribute of barrier performance and affected the cornerstone objective to protect the public from radionuclide releases caused by accidents or events because steam generator tube leakage events would release radionuclides directly to the atmosphere. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609, Appendix H, dated May 6, 2004. The finding was determined to be of very low safety significance because it did not affect core damage frequency and the components involved were not identified as being important to large early release frequency. In addition, this finding has a human performance cross-cutting aspect associated with decision making because the licensee did not use conservative assumptions and adopt a requirement to demonstrate that the proposed action is safe in order to proceed [H.1(b)].
Inspection Report# : 2012003 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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.

Miscellaneous

Significance: N/A Oct 31, 2012
Identified By: NRC
Item Type: FIN Finding
SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION, 2012, Biennial Problem Identification and Resolution Inspection Summary
The team reviewed approximately 210 condition reports, including associated work orders, engineering evaluations, root and apparent cause evaluations, and other supporting documentation. The purpose of this review, focused on documentation of higher-significance issues, was to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The team reviewed a sample of system health reports, self assessments, trending reports and metrics, and various other documents related to the corrective action program. The team concluded that with limited exceptions, the licensee maintained a corrective action program in which issues were generally identified at an appropriately low threshold. Issues entered into the corrective action program were appropriately evaluated and timely addressed, commensurate with their safety significance. Corrective actions were generally effective, addressing the causes and extents of condition of problems.

The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee used industry operating experience when performing root cause and apparent cause evaluations. The licensee performed effective quality assurance audits and self assessments, as demonstrated by its self identification of some needed improvements in corrective action program performance and of ineffective corrective actions.

The licensee maintained a safety-conscious work environment in which personnel felt free to raise nuclear safety concerns without fear of retaliation. All individuals interviewed by the team were willing to raise these concerns by at least one of the several methods available.
Inspection Report# : 2012007 *(pdf)*

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