South Texas 1
3Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Control Steam Generator Water Levels at Low Power
The inspectors documented a self-revealed, non-cited violation of Technical Specification 6.8.1.a, "Procedures," for failure to implement procedures for power operation as described in Regulatory Guide 1.33, Revision 2, Appendix A, Section 2.g, dated February 1978. Specifically, the procedure the licensee used for low power operation failed to include adequate instructions for the control of steam generator water levels, which resulted in a plant cooldown, a letdown isolation, a pressurizer power-operated relief valve lift, and unplanned entry into two technical specification action statements. The licensee entered this issue into the corrective action program as Condition Report 2015-26657.

The inspectors determined that the failure to control steam generator water levels due to an inadequate procedure during lower power operations was a performance deficiency. The performance deficiency is more than minor because it is associated with the procedure quality attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to control steam generator water levels resulted in a plant cooldown, a reactor coolant system letdown isolation, a pressurizer power-operated relief valve to lift, and unplanned entry into two technical specification action statements. The inspectors screened this finding using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) For Findings At-Power," dated June 19, 2012. The finding screened as Green per Section B. of Exhibit 1, "Initiating Events Screening Questions," because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function, and did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. Inspectors determined the finding had a cross-cutting aspect of training in the human performance area because the organization failed to provide training and ensure knowledge was transferred to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. Specifically, because the licensee provided start-up training and simulator based training, skill of the craft vice detailed procedures was thought to be adequate for controlling steam generator water levels at low power [H.9].

Inspection Report# : 2016002 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Scaffold Procedure to Ensure Safety-Related Equipment Not Impacted

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to provide an adequate scaffold procedure to ensure that safety-related equipment would not be impacted. Specifically, Procedure 0PGP03-ZM-0028, "Erection and Use of Temporary Scaffolding," Revision 20, did not give scaffold clearance parameters when constructing scaffold around safety-related mechanical and structural components, nor did it direct an engineering evaluation if scaffold is in contact with safety-related components or when clearances cannot be met. The licensee entered this issue into the corrective action program as Condition Report 16-5503.

The failure to have adequate procedural guidance for erecting temporary scaffold in the vicinity of safety-related components was a performance deficiency. Specifically, Procedure 0PGP03-ZM-0028, "Erection and Use of Temporary Scaffolding," Revision 20, only described scaffold clearance around safety-related electrical equipment, but not safety-related mechanical and structural components. The performance deficiency is more than minor, and therefore a finding, because if left uncorrected could become a more safety significant safety issue following a seismic event. Specifically, the continued practice of building scaffolding in contact with safety-related equipment and without an engineering evaluation could lead to damage, inoperability, or unavailability during system perturbations or following a seismic event. The inspectors evaluated this finding in accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) For Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Screening Questions." The inspectors determined the finding was of very low safety significance (Green) because the finding did not: 1) affect the design or qualification of a mitigating structure, system, and component; 2) represent a loss of system and/or function; 3) represent an actual loos of function of at least a single train for greater than its technical specification allowed outage time or two separate safety systems for greater than its technical specification allowed outage time; or 4) represent an actual loss of function of one or more technical specification trains of equipment designated as high safety significance in accordance with the licensee's maintenance rule program for greater than 24 hours. The inspectors determined that the finding has a cross-cutting aspect of self-assessment in the problem identification and resolution area, because the licensee had not recently conducted a periodic and critical review of the temporary scaffold program and procedures [P.6].
Inspection Report# : 2016002 *(pdf)*

Significance:  Mar 31, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify and Correct Faulty NI-36 Channel
Inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee's failure to identify a condition adverse to quality. Specifically, the licensee failed to identify that a faulty logarithmic amplifier was producing inaccurate intermediate range nuclear instrument channel NI-36 indications. This resulted in multiple instances of delays in the change of state of reactor trip instrumentation permissive P-6 when shutting down the reactor. The licensee replaced NI-136's log current amplifier using approved procedures and returned the channel to service. This issue was entered into the corrective action program as Condition Report 16-1227.

The licensee's failure to identify a condition adverse to quality regarding intermediate range nuclear instrument channel NI-36 was a performance deficiency. Specifically, the licensee failed to identify a faulty log current amplifier in intermediate range nuclear instrument channel NI-36, which led to multiple instances of inaccurate indication and delays in the change of state of reactor trip instrumentation permissive P-6, when shutting down the reactor that required operator action and unplanned technical specification entries. This performance deficiency is more than minor and, therefore, a finding because it impacts the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors screened this finding using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) For Findings At-Power," dated June 19, 2012. The finding screened as Green per Section A of Exhibit 2, "Mitigating Systems Screening Questions," because the finding did not affect the design or qualification of a mitigating structure, system,

or component; the finding did not represent a loss of the system and/or function; the finding did not represent an actual loss of function of at least a single train for greater than its Technical Specification allowed outage time; and the finding did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule for more than 24 hours. Inspectors determined the finding had a cross-cutting aspect of conservative bias in the human performance area because leaders did not take a conservative approach to decision making, particularly when information is incomplete or conditions are unusual. Specifically, the licensee made the decision not to enter their procedure for preventing recurring equipment problems process, even though entry criteria to do so was met, because of a false confidence that the correct cause had already been identified [H.14].
Inspection Report# : 2016001 *(pdf)*

Significance: G Dec 31, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Track and Incorporate Actual Plant Data into Simulator Operability Testing
The inspectors identified a finding, associated with simulator operability testing, for the failure of the licensee to track and incorporate actual plant data into their cyclic operability tests, as required by American National Standards Institute-3.5-2009, "Nuclear Power Plant Simulators for Use in Operator Training and Examination." With the exception of one transient, the licensee exclusively used engineering analysis from the RETRAN code as baseline data without reference to plant events that may have been related to the required transient tests. This issue was entered into the licensee's corrective action program as Condition Report 15-21463.

The failure to track and incorporate plant events into baseline data for simulator operability testing is a performance deficiency. It is more than minor and, therefore, a finding because it is associated with the human performance attribute of the Mitigating Systems Cornerstone and negatively affected the objective to ensure the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, if simulator performance is not being compared to the most relevant baseline data from the plant, the reliability of the simulator performance is reduced. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification SDP" (block 14), the finding was determined to have very low safety significance (Green) because it is a "Simulator testing, maintenance, or modification deficiency." This finding has a cross-cutting aspect in the procedure adherence component of the human performance cross-cutting area because the licensee failed to ensure that individuals follow processes, procedures, and work instructions in that the American National Standards Institute-3.5-2009 guidance for selecting baseline data for simulator testing was not followed [H.8].
Inspection Report# : 2015004 *(pdf)*

Barrier Integrity

Significance: G Aug 26, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Update Procedure Reference Leads to Non-functional Unit 1 Technical Support Center Diesel Generator
The team is documenting a self-revealing Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow Procedure 0PGP04-ZE-0309, "Design Change Package," Revision 2. Specifically, on January 16, 1996, the licensee failed to identify and correct changes to

drawing and breaker overhaul procedures, which resulted from Design Change Package 93-3409-4, “Circuit Breaker Replacement-Load Center 1W,” in accordance with Step 4.2.2.5 of the procedure. This resulted in electrical maintenance personnel using an incorrect drawing and procedure during a technical support center diesel generator supply breaker overhaul, on July 16, 2014, which left in place internal jumper cables that prevented the supply breaker from automatically closing.

The inspectors determined that the failure to follow Procedure 0PGP04-ZE-0309, “Design Change Package,” Revision 2, was a performance deficiency. In accordance with Inspection Manual Chapter 0612, Appendix B, “Issue Screening,” the performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the structure, system, and component, and barrier performance - containment isolation, attribute of the Barrier Integrity Cornerstone, and affected the associated cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the finding adversely affected the Technical Support Center diesel generator’s capability to supply ac power to the containment hatch hoists in order to close that hatch in the event of a loss of offsite power during outage conditions. Using Inspection Manual Chapter 0609, Attachment 4, “Initial Characterization of Findings,” the inspectors determined that the finding could be evaluated using the significance determination process. In accordance with Table 3, “SDP Appendix Router,” the inspectors determined that the subject finding would be processed through Appendix G, “Shutdown Operations Significance Determination Process.” dated May 9, 2014. In accordance with Appendix G, Exhibit 4, “Barrier Integrity Screening Questions,” Question B.6, directs the inspectors to Appendix H if the finding degrades the ability to close or isolate the containment. In accordance with Inspection Manual Chapter 0609, Appendix H, “Containment Integrity Significance Determination Process,” Section 4.1, “Types of Findings,” the finding was a Type B finding because it had potentially important implications for the integrity of the containment, without affecting the likelihood of core damage. Appendix H, Section 6.2, “Approach for Assessing Type B Findings at Shutdown,” Step 2.2.A directs the user to Table 6.3 with a containment status of intact. Table 6.3, “Phase 1 Screening – Type B Findings at Shutdown,” requires a Phase 2 evaluation because South Texas Project has a large, dry containment and the finding affected containment isolation. Appendix H, Table 6.4, “Phase 2 Risk Significance – Type B Findings at Shutdown,” provided an estimated risk significance of White because South Texas Project has a large, dry containment; the leakage from containment was greater than 100 percent volume/day; South Texas Project had in-depth shutdown mitigation capability; and for part of the exposure period, the plant was in Plant Operational State 2E.

In accordance with Appendix H, Section 2.0, “Limitations and Precautions,” a more detailed assessment was performed in a Significant Determination Process Phase 3 evaluation.

The analyst performed a detailed risk evaluation of the subject performance deficiency. During the exposure period, from July 16, 2014, through October 29, 2015, the failure of the Technical Support Center diesel generator affected risk of the unit, while at power, because of the failure to provide power to the positive displacement pump for reactor coolant pump seal cooling following a postulated loss of all alternating current event. Additionally, the Technical Support Center diesel would not have fulfilled its function to provide backup power to close the containment hatch during the outage period from October 18, 2015, to October 29, 2015. These two impacts on plant risk were evaluated. Because the combined risk of the at-power and shutdown risk evaluations were lower than the threshold, the analyst determined that this non-cited violation was of very low safety significance (Green). This finding has no cross-cutting aspect assigned because the root cause of this issue occurred in 1996 and is not reflective of current licensee performance.
Inspection Report# : 2016009 *(pdf)*

Emergency Preparedness

Significance: G Dec 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Maintain the Emergency Plan Up to Date With the Safety Evaluation Report
The inspectors identified a non-cited violation of 10 CFR 50.54(q)(2) for failure to maintain the emergency plan in accordance with the approved safety evaluation report. Specifically, the licensee failed to meet 10 CFR 50.47(b)(2) requirements for timely augmentation of response capabilities, in accordance with the approved safety evaluation report. Following an update to the safety evaluation report in 1993, the licensee failed to update the emergency response organization staff augmentation time requirements to commence at the time of an emergency declaration vice from the time of an emergency notification. To restore compliance, the licensee updated the emergency plan in accordance with the current safety evaluation report.

Failure to maintain the site emergency plan in accordance with the approved safety evaluation report, dated May 20, 1993, was a performance deficiency. Specifically, the licensee failed to update the ERO staff augmentation time requirements to commence at the time of an emergency declaration, as required by the NRC safety evaluation report. This performance deficiency is more than minor because it is associated with the procedure quality attribute of the Emergency Preparedness Cornerstone and adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process (SDP)," dated September 22, 2015, and was determined to be of very low safety significance (Green) per Table 5.2-1, "Significance Examples 50.47(b)(2)," because the staffing processes do not meet the threshold of "routinely not capable of ensuring timely augmentation of the on shift emergency response staff to the extent that more than one required ERO functional area (in accordance with E-plan commitments) would not be filled." No cross-cutting aspect is assigned because the performance deficiency is not indicative of present performance.
Inspection Report# : 2015004 *(pdf)*

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

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