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## **South Texas 2 – Quarterly Plant Inspection Findings**

### **2Q/2017 – Plant Inspection Findings**

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#### **Initiating Events**

#### **Mitigating Systems**

**Significance:** G Feb 10, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Provide 8-hour Emergency Lighting for All Alternative Shutdown Manual Actions**

The team identified a non-cited violation of License Condition 2.E for the failure to provide 8-hour emergency lighting in all areas where operators perform manual actions required during an alternative shutdown. As a compensatory measure, the licensee added flashlights to the procedure box in the essential cooling water intake structure. The team noted that operators were also required to carry a flashlight while on shift. The licensee entered this issue into their corrective action program as Condition Report 17-1741.

The failure to provide 8-hour emergency lighting in all areas where operators perform manual actions required during an alternative shutdown was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to provide 8-hour emergency lighting could adversely affect the ability of operators to perform the manual actions required for an alternative shutdown.

The team determined this finding affected the Mitigating Systems Cornerstone. The team evaluated this finding using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," dated September 20, 2013, because it affected the ability to reach and maintain safe shutdown conditions in case of a fire. The team determined this finding was of very low safety significance (Green) in Task 1.3.1 because it had a low degradation rating.

The finding did not have a cross-cutting aspect since it was not indicative of present performance in that the performance deficiency occurred more than three years ago. Specifically, the team determined that the performance deficiency existed since original construction.

Inspection Report# : 2017007 (*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 OPGP04-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 OPGP04-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 Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Implementation of a Protective Action Recommendation Strategy That Can Recommend Unnecessary Protective Actions for the Public**

The inspectors identified a Green non-cited violation of 10 CFR 50.47(b)(10) for the failure between July 16, 2015, and September 8, 2016, to develop a range of protective actions for the plume exposure emergency planning zone for the public, considering evacuation and sheltering. The licensee restored compliance by implementing procedure 0ERP01-ZV-IN07, "Offsite Protective Action Recommendations," Revision 17, effective September 28, 2016. This issue has been entered into the licensee's corrective action program as Condition Report 16-9135.

The implementation of a protective action scheme that recommends protective actions for members of the public who are not at radiological risk is a performance deficiency within the licensee's ability to foresee and correct. The finding is more than minor because it adversely affects the Emergency Planning cornerstone objective and is associated with the procedure quality and emergency response organization performance cornerstone objectives. The finding was evaluated using Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated September 22, 2015, and was determined to be of very low safety significance (Green), because it was a failure to comply with NRC regulations and was not a lost or degraded risk-significant planning standard function. This finding has a cross-cutting aspect in the area of human performance associated with avoiding complacency, because the licensee did not challenge the basis for existing program elements in reviewing their program against the revised NUREG-0654, Supplement 3 [H.12].

Inspection Report# : 2016003 (*pdf*)

## **Occupational Radiation Safety**

### **Public Radiation Safety**

#### **Security**

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

**Miscellaneous**

Current data as of : August 03, 2017

*Page Last Reviewed/Updated Thursday, August 11, 2016*