

South Texas 1

4Q/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*)

Significance: G Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Correct Procedure Deficiencies Allowing Cooling Restoration to RCP Seals

The team identified a Green, non-cited violation of Technical Specification 6.8.1.a., "Procedures," which requires that written procedures shall be established, implemented, and maintained for procedures in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Procedures addressing combating emergencies involving loss of electric power are denoted in Appendix A, Section 6, Item c. Specifically, since July 2010, the licensee failed to maintain the

loss of all alternating current power emergency procedure to ensure the procedure contained adequate direction to operators to mitigate a loss of reactor coolant pump seal cooling unique to the plant's design. In response to this issue, the licensee initiated actions to consult with the plant's design owners' group to determine the best method of addressing this procedure vulnerability. Emergency operating procedure documentation and/or operator training will be revised based on owner's group input. This issue was entered into the licensee's corrective action program as Condition Report CR 16-2126.

The team determined that the failure to maintain procedures in accordance with accepted industry standards was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the Initiating Events cornerstone attribute of procedure quality, 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, operating procedures did not contain appropriate attributes to ensure timely action to prevent an increased likelihood of a reactor coolant pump seal loss of coolant accident following a station blackout. In addition, if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, if the licensee used the procedure to mitigate a loss of all alternating current power event, the licensee may increase the risk of increased reactor coolant pump seal leakage, as well as potentially placing the safety-related component cooling water system in an unanalyzed condition. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, "Initiating Events Screening Questions," the team determined a detailed risk evaluation was necessary because, after a reasonable assessment of degradation, the finding could result in exceeding the reactor coolant system leak rate for a small loss of coolant accident. Therefore, the senior reactor analyst performed a bounding detailed risk evaluation. The analyst determined that the change to the core damage frequency would be 1E-7 per year (Green). This finding had a cross-cutting aspect in the area of problem identification and resolution associated with evaluation because organizations failed to thoroughly evaluate issues to ensure that resolutions address causes and extent of condition commensurate with their safety significance. Specifically in 2014, the licensee received a non-cited violation associated with not having adequate procedures to address equipment malfunctions that caused a loss of reactor coolant pump seal cooling (Inspection Reports 05000498/2013007); however, the extent of condition review did not document any reviews of other procedures associated with reactor coolant pump seal cooling loss events to see if they allowed for seal cooling to be restored when seal temperatures were above 230 degrees F [P.2].
Inspection Report# : [2016007](#) (*pdf*)

Mitigating Systems

Significance:  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 OPGP03-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 loss 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:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Adequate Periodic Testing of Molded Case Circuit Breakers

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” which states, in part, “a test program shall assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.” Specifically, since March 22, 1988, the licensee failed to assure that all testing required to demonstrate that the safety-related molded case circuit breakers would perform satisfactorily in service was performed in accordance with the acceptance limits contained in Institute of Electrical and Electronics Engineers (IEEE) 308-1974. In response to this issue, the licensee determined that the molded case circuit breakers will remain operable while implementing corrective actions to ensure the appropriate testing requirements of the molded case circuit breaker were included in the test programs. This violation was entered into the licensee’s corrective action program as Condition Report CR 16-2166.

The team determined that the failure to detect deterioration and demonstrate operability of molded case circuit breakers through appropriate testing was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, inadequate periodic testing to detect deterioration and to demonstrate continued operability was a significant programmatic deficiency that would adversely affect the reliability of Class 1E molded case circuit breakers to perform satisfactorily in service. 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 Systems Screening Questions,” the team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a structure, system, or component, and the structure, system, or component maintained its operability or functionality. This finding had a cross-cutting aspect in the area of human performance associated with consistent practices because the licensee did not use a consistent, systematic approach to make decisions. Specifically, the licensee did not use a consistent approach to determine which molded case circuit breakers would or would not be tested [H.13].

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Verify the Adequacy Calculations Associated with Direct Current Circuit Breakers

The team identified two examples of a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” which states, in part, “the design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.” Specifically, since March 22, 1988, the licensee failed to verify the adequacy of the molded case circuit breakers to perform their design basis function using appropriate time-current curves and tolerances or Class 1E 125 Vdc molded case circuit breakers to assure adequate trip response times, instantaneous trip accuracies, and rates of change of the sensed variable (the short circuit current). In response to this issue, the licensee determined that the 125 Vdc system would remain operable while implementing corrective actions to revise their design calculations to incorporate the appropriate time-current curves and current tolerances in design calculations. This violation was entered into licensee’s corrective action program as Condition Reports CR 16-

2196 and CR 16-2117.

The team determined that the failure to verify the adequacy of the design of Class 1E 125 Vdc molded case circuit breakers was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the design control attribute of the Mitigating Systems cornerstone and 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 verify the adequacy of the molded case circuit breakers to perform their design basis function using appropriate time-current curves and tolerances adversely affected the capability of the 125 Vdc systems. Additionally, independent inspector calculations confirmed that the calculation errors resulted in a reasonable doubt on the operability of the 125 Vdc molded case circuit breakers. 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 Systems Screening Questions," the team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a structure, system, or component, and the structure, system, or component maintained its operability or functionality. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect present licensee performance.

Inspection Report# : [2016007](#) (pdf)

Significance: N/A Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Include Applicable Safety System Criteria in the Final Safety Analysis Report

The team identified a Severity Level IV, non-cited violation of 10 CFR 50.34(b)(2), "Final Safety Analysis Report" which requires, in part, that the final safety analysis report shall include a description and analysis of the structures, systems, and components of the facility, with emphasis upon performance requirements, the bases, with technical justification therefor, upon which such requirements have been established, and the evaluations required to show that safety functions will be accomplished. The description shall be sufficient to permit understanding of the system designs and their relationship to safety evaluations. Specifically, since March 22, 1988, the licensee failed to include, in the final safety analysis report, the safety system criteria specified by IEEE 603-1980 and IEEE 7.4-3-2 for the Eagle 21 control system, which described the facility, presented the design bases, and the limits on its operation. This violation does not represent an immediate safety concern. In response to this issue, the licensee created corrective actions to determine the appropriate information to include in the next update to the updated final safety analysis report. This violation was entered into the licensee's corrective action program as Condition Report CR 16-1281.

The team determined that the failure to revise the final safety analysis report with the supplemental information that presented the design bases of the qualified display processing system was a violation of 10 CFR 50.34(b)(2). The violation was more than minor because the design basis information affected certain safety system functions (i.e., the auxiliary feedwater system control valves), which had a material impact on safety. Because the issue affected the NRC's ability to perform its regulatory function, the inspectors evaluated this violation using the traditional enforcement process. The inspectors used the NRC Enforcement Policy, Subsection 6.1, "Reactor Operations," dated February 4, 2015, to evaluate the significance of this violation. This violation is similar to example 6.1.d.3 in the Enforcement Policy. Therefore, this was a Severity Level IV violation because the violation represented a failure to update the final safety analysis report as required by 10 CFR 50.34(b)(2), but the lack of up-to-date information has not resulted in any unacceptable change to the facility or procedures. The team determined there was no cross-cutting aspect because cross-cutting aspects are not assigned to traditional enforcement violations.

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Adequate On-going Class 1E Qualification for the Qualified Display Processing System

The team identified a Green, non-cited violation of 10 CFR 50.55a(h)(2) "Protection Systems," which requires, in part, for nuclear power plants with construction permits issued after January 1, 1971, but before May 13, 1999, protection systems must meet the requirements in IEEE Std. 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations." Specifically, since approximately 1993, the licensee failed to demonstrate qualification of the Eagle 21 system, on a continuing basis, by appropriate methods for equipment whose qualified life is less than the design life of the system. This violation was entered into the licensee's corrective action program as Condition Report CR 16-2214.

The team determined that the failure to perform on-going qualification testing of installed Eagle 21 components whose qualified life was less than the design life was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, inadequate on-going equipment qualification adversely affects the availability, reliability, and capability of Class 1E components to meet their safety functional requirements throughout their service lives. 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 Systems Screening Questions," the team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a structure, system, or component, and the structure, system, or component maintained its operability or functionality. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect present licensee performance.

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Control Software Tools Commensurate with the Importance to Safety

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment," which states, "Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits." Specifically, since March 22, 1988, the licensee failed to establish measures to assure that the Class 1E Eagle 21 software tools and testing devices were properly controlled commensurate with their importance to the test and evaluation of the Class 1E integrated computer system, which ensures compliance with the functional, performance, and interface requirements of the system. In response to this issue, the licensee placed control of the tools and testing equipment under the nuclear quality assurance program. This violation was entered into the corrective action program as Condition Report CR 16-1985.

The team determined that the failure to control software tools and testing devices used in activities affecting quality of the Class 1E Eagle 21 system was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it would have the potential to lead to a more significant safety concern. Specifically, the failure to control the software tools and testing devices would lead to potential errors being introduced to these tools and the safety-related Eagle 21 system. 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 Systems Screening Questions," the team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a structure, system, or component, and the structure, system, or component maintained its operability or functionality. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect present licensee performance.

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Correct Conditions Adverse to Quality Associated with the Eagle 21 System

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” which states, in part, “Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.” Specifically, since September 24, 2014, the licensee failed to establish measures to assure that deficiencies, deviations, defective material and equipment, and nonconformances that were responsible for malfunctions in the Class 1E Eagle 21 system were corrected. In response to this issue, the licensee performed an operability determination which determined the system was operable but in a degraded condition. This violation was entered into the licensee’s corrective action program as Condition Report CR 16-2220.

The team determined that the failure to correct conditions adverse to quality in the Class 1E Eagle 21 system that were nonconformances with requirements was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and 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 correct conditions adverse to quality in the Class 1E Eagle 21 system adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the protective action implemented by the qualified display processing system. 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 Systems Screening Questions,” the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance associated with conservative bias because the licensee individuals failed to use decision making practices that emphasize prudent choices over those that are simply allowable [H.14].

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement Administrative Controls for a Nonconservative Technical Specification of Standby Diesel Generator Frequency Variation

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” which states, in part, “Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.” Specifically, since 1997, the licensee failed to correct a condition adverse to quality by imposing administrative controls in response to a nonconservative Technical Specification. In response to this issue, the licensee performed an operability determination regarding past performance on the auxiliary feedwater motor-driven pumps and concluded that they have always retained their safety function. This violation was entered into the licensee’s corrective action program as Condition Report CR 16-2176.

The team determined that the failure to impose administrative limits in surveillance procedures to promptly correct a condition adverse to quality was a performance deficiency. The performance deficiency was determined to be more

than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency would have the potential to become a more significant safety concern. Specifically, operation of the motor driven auxiliary feedwater pumps with a diesel generator frequency acceptance criteria of up to ± 2 percent would allow operation in a regime where the pumps would not perform their safety function when called upon. 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 Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality. This finding had a cross-cutting aspect in the area of human performance associated with change management because the licensee failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, the licensee did not properly evaluate the need to take appropriate interim corrective actions before the appropriate guidance was endorsed [H.3].

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Sufficient Capacity and Capability of Mitigating Systems during a Station Blackout Event

The team identified a Green, non-cited violation of 10 CFR 50.63(a)(2) which states, in part, "The reactor core and associated coolant, control, and protection systems, including station batteries and any other necessary support systems, must provide sufficient capacity and capability to ensure that the core is cooled and appropriate containment integrity is maintained in the event of a station blackout for the specified duration." Specifically, since September 12, 2013, the battery sizing and load profile calculations of the channel I ("A" train) direct current battery bus failed to include proper design data for expected loads and possible worst case load currents. In response to these issues, the licensee determined the battery bus was operable and the licensee initiated actions to analyze the effects of the change in calculation methodology, as well as to account for the additional loads. This finding was entered into the licensee's corrective action program as Condition Reports CR 16-1794, CR 16-2197, and CR 16-2236.

The team determined that the failure to ensure the capacity and capability of protection systems to provide support for core cooling and containment integrity maintenance in the event of a station blackout was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with 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. In addition, if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, if the channel I emergency safety features direct current bus were required to support loads for the four hour coping period, the licensee may subject components used to ensure core cooling and containment integrity to conditions that were not assumed in their station blackout analysis. 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 Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance associated with procedure adherence because the licensee failed to follow process, procedures, and work instructions. Specifically, the licensee did not follow the calculation change process procedures to complete an impact review of pertinent licensing information associated with station blackout when the battery load assumptions were revised in the station blackout coping calculation [H.8].

Inspection Report# : [2016007](#) (pdf)

Significance:  Mar 09, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Adequate Design Control Measures in Place to Mitigate a Loss of Normal Feedwater Flow Event

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” which states, in part, that “Measures shall be established to assure that applicable regulatory requirements and the design basis...for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures and instructions.” Specifically, since August 1, 2001, the licensee failed to translate into procedures that a loss of normal feedwater flow event would be mitigated consistent with the licensee’s design basis assumptions. In response to this issue, the licensee initiated actions to establish interim emergency operating procedure directions for the licensed operators to ensure that credited safety-related equipment is used with priority in the event if this were to occur at the plant. The emergency operating procedure is being revised to ensure permanent corrective action is taken. This finding was entered into the licensee's corrective action program as Condition Report CR 16-1694.

The team determined that the failure to establish measures to assure that the design bases was correctly translated into procedures and instructions was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the Mitigating Systems cornerstone attribute of procedure quality, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, if the licensee used the procedure to mitigate a loss of normal feedwater flow event, the licensee may place the plant in an unanalyzed condition. 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 Systems Screening Questions,” the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect present licensee performance.

Inspection Report# : [2016007](#) (pdf)

Barrier Integrity

Significance:  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:  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

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 01, 2017