

Sequoyah 2 2Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jun 17, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Energize Hydrogen Igniters during Extended Station Blackout

The NRC identified a finding (FIN) for the licensee's failure to meet their docketed commitment to revise the back-up generators to include supplying one train of containment hydrogen igniters per unit in response to Generic Safety Issue 189, "Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident." The licensee entered this issue into their corrective action program and completed immediate corrective actions to revise procedure FSI-5.01, "Initial Assessment and Flex Equipment Deployment," Rev. 0, to ensure the hydrogen igniters would be energized during an extended station blackout (SBO) event.

The performance deficiency was determined to be more than minor because it was associated with the Procedure Quality attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to energize the hydrogen igniters during an extended SBO event could result in containment failure. The team determined the finding to be of very low safety significance (Green) because the risk was mitigated by the low frequency of SBO conditions and the high likelihood of operator recovery given the obvious diagnosis of the performance deficiency. The team determined the finding was indicative of present licensee performance and was associated with the cross-cutting aspect of operating experience (OE), in the area of Problem Identification and Resolution, because the licensee failed to effectively collect, evaluate, and implement relevant internal OE before implementing their new station procedures to use the FLEX diesels as the power supply to the hydrogen igniters

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

Significance: G Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Application of Flame Retardant on Cable Room Penetrations

The NRC identified a non-cited violation (NCV) of Unit 1 and 2 Technical Specification 5.4.1 for the licensee's failure to adequately implement fire protection procedures. Specifically, the inspectors identified several cables located within a cable tray that penetrated the floor of the cable spreading room that were not adequately coating with fire retardant material as required by plant procedures. The licensee placed the issue into the corrective action program (CAP) and implemented a fire watch for the degraded condition.

The inspectors determined that the failure to adequately implement all requirements of the licensee's fire protection

program procedures was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the protection against external events (fire) 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 determined the finding was of very low safety significance (Green) because of the fire protection defense in depth concept provided other barriers to prevent the spread of fires. The cause of this finding was related to the procedural adherence component of the human performance area, because the licensee failed to properly install cable bundles through wall penetrations. [H.8]

Inspection Report# : [2016001](#) (*pdf*)

Mitigating Systems

Significance:  Jun 17, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement the Design Change Process when Modifying the Safety-Related Fire Dampers

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” for the licensee’s failure to use the design change process to make modifications to the Emergency Diesel Generator EDG room inlet dampers as required by NPG-SPP-9.3, “Plant Modifications and Engineering Change Control.” The licensee entered the issue into the corrective action program and implemented compensatory measures, while implementing plans to modify each of the affected inlet and exhaust fire dampers. This performance deficiency was determined to be more than minor 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 licensee modified the dampers to include the wrong brackets, which could adversely affect the dampers ability to remain open to provide cooling during EDG operation and support EDG reliability and availability. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC maintained its operability or functionality. This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

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

Significance:  Jun 17, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Install Safety-Related Components that are Designed to Withstand the Effects of a Design Basis Tornado

The NRC identified a non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to install emergency diesel generator components that could withstand the effects of a design basis tornado as

required by Section 3.1.2 of the Update Final Safety Analysis Report (UFSAR). The licensee entered the issue into the corrective action program and implemented compensatory measures to protect the affected components.

This performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the capability of the equipment to withstand the effects of a tornado was not ensured. The team determined the finding to be of very low safety significance (Green) because of the low frequency of tornados/high winds and the potential for recovery by the operators on site. This finding was not assigned a crosscutting aspect because the issue did not reflect present licensee performance.

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

Significance:  Jun 17, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Monitoring of the 480V Shutdown Transformers

The NRC identified a non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” for the licensee’s failure to have documented procedures in place to ensure effective monitoring of the 480V Shutdown Transformers as required by Section 5.3.2.(4) of IEEE 308-1971. The licensee entered the issue into the corrective action program and planned to put additional transformer testing/monitoring in place to detect degradation prior to equipment failure.

This performance deficiency was determined to be more than minor 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 licensee failed to perform adequate maintenance on the shutdown transformer, which could result in the inability to detect the deterioration of the shutdown transformer toward an unacceptable condition. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC maintained its operability or functionality. This finding was not assigned a cross-cutting aspect because the issue did not reflect present licensee performance.

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

Significance:  Jul 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to maintain control of and update safety related design out documents (electrical calculations)

The inspectors identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, Design Control, for the licensee’s failure to control safety related calculations that reviewed equipment essential to the function of Class 1E electrical systems. The issue was entered into the licensee’s corrective action program as CRs 1059281 and 1064042. Planned corrective actions were to revise the calculations.

The inspectors determined that the performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone. The failure to plan and control

updates to safety related calculations to review the suitability of new molded case circuit breakers in Class 1E electrical systems adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have a cross-cutting aspect in the resolution area of Problem Identification and Resolution [P.3], because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance.

Inspection Report# : [2015007](#) (pdf)

Significance:  Jul 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to request a licensee amendment prior to removing interlocks from shared onsite emergency and shutdown AC electric systems

The inspectors identified a SLIV violation of 10CFR 50.59.c.(2).ii, “Changes, tests and experiments,” for the licensee’s failure to obtain a license amendment prior to implementing a change to the onsite emergency and shutdown AC electric systems supplying the shared Essential Raw Cooling Water (ERCW) systems. The change removed the kirk key interlocking system from the tie breakers that originally prevented an operator error that would parallel the Unit 1A and Unit 2A 480V AC motor control centers (MCCs). The issue was entered into the licensee’s corrective action program as CR 1076179. The licensee has administrative controls in place to limit the risk of this configuration pending determination of corrective actions.

The inspectors determined that the performance deficiency was more than minor because there was a reasonable likelihood that the change required Commission review and approval prior to implementation and the failure to request approval impacted the regulatory process. Specifically, the departure from acceptance criteria identified in IEEE 308, RG1.81, and RG 1.6 more than minimally increased the likelihood of occurrence of an ERCW power train malfunction.

Inspection Report# : [2015007](#) (pdf)

Significance:  Jul 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to identify and correct inadequate procurement evaluation processes

The inspectors identified three examples of a Green non-cited (NCV) of 10 CFR 50 Appendix B, Criterion XVI, “Corrective Action, for the licensee’s failure to identify and correct a conditions adverse to quality that were associated with processes for evaluating Class 1E critical characteristics for molded case circuit breakers. The issue was entered into the licensee’s corrective action program as CRs 1064483, 1064744, 1064479, 1059273 and 1064731. Planned corrective actions were to update procedures to document critical thinking in evaluating CRs and include additional critical characteristics.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and the failure to identify and correct nonconformances in Class 1E equipment and the failure to resolve adverse conditions with evaluating Class 1E critical characteristics adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have a cross-cutting aspect in the change management area of Human Performance [H.3] because Leaders failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Inspection Report# : [2015007](#) (pdf)

Significance:  Jul 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Identify Qualification Criteria Associated with Class 1E Electrical Component Static Performance Characteristics

The inspectors identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to verify the adequacy of defined shelf life and design life characteristics of Class 1E electrical equipment. The issue was entered into the licensee’s corrective action program as CR 1064785.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone and the failure to ensure the Class 1E static and dynamic performance characteristics were identified and evaluated adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the SSCs that responds to initiating events to prevent undesirable consequences. The finding was determined to have a cross-cutting aspect in the change management area of Human Performance [H.3] because Leaders failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Inspection Report# : [2015007](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Significance:  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Recognize and Submit for Approval a Reduction in Effectiveness of the Emergency Plan

The inspectors identified a Severity Level IV NCV of Title 10 of the Code of Federal Regulations, Part 50.54(q), for changes to the licensee’s radiological emergency plan, effective December 18, 2014, that reduced the effectiveness of the plan and therefore, should have received NRC approval prior to making the change. Specifically, the effectiveness of TVA’s Radiological Emergency Plan (Generic Part), Revision 104, was reduced by the inadvertent removal of the offsite telephone communications description for the Health Physics Network and Emergency Notification System communication tools, as well as the monthly testing of those devices. The licensee’s failure to recognize that Revision 104 reduced the effectiveness of the emergency plan was a performance deficiency. The licensee entered this issue into their corrective action program (CAP) as Condition Report (CR) 1093684.

A licensee making changes to its emergency plan that reduces the effectiveness of the plan without prior NRC approval is considered a performance deficiency within the licensee’s ability to foresee and correct. This finding is more than minor because it brings into question the thoroughness of the licensee’s review process when making changes to the emergency plan and adversely affects the procedure quality attribute of the emergency preparedness cornerstone objective. This finding is a violation of NRC requirements and because it has the potential for impacting the NRC’s ability to perform its regulatory function, traditional enforcement is applicable in accordance with IMC 0612, Appendix B. This finding is determined to be a Severity Level IV violation in accordance with Section 6.6.d.1 of the Enforcement Policy because it involves the licensee’s ability to meet or implement a regulatory requirement not related to assessment or notification such that the effectiveness of the emergency plan is reduced.

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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