

Callaway

3Q/2013 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Appropriately Pre-plan and Perform Maintenance on the Unit Auxiliary Transformer

The inspectors reviewed a self-revealing non-cited violation of Technical Specifications 5.4.1 and Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," involving the failure to appropriately pre-plan and perform maintenance on equipment that can affect the performance of safety-related equipment. Specifically, the licensee failed to properly pre-plan and perform maintenance on the unit auxiliary transformer that contributed to a fire. During Refueling Outage 19, the unit auxiliary transformer was providing power to non-safety house loads and train B battery chargers when it experienced a phase to phase short and fire in the surge capacitor. The fire and loss of power affected the performance of safety-related batteries and battery chargers, and led to manual actuations of the reactor protection system. This issue was entered into the licensee's corrective action program as Callaway Action Request 201302877. Corrective actions included installing new surge protectors on the unit auxiliary transformer, revising station procedures for connecting and disconnecting the surge protectors, and ordering new surge capacitors for the startup transformer.

The failure to appropriately pre-plan and perform maintenance on equipment that can affect the performance of safety-related equipment was a performance deficiency. The performance deficiency was more than minor because it adversely affected the protection against external factors attribute of the Initiating Events Cornerstone, and 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 fault and fire led to a loss of power to mitigating systems while the reactor was shutdown. Using Inspection Manual Chapter 0609, Appendix G, Attachment 1, Checklist 4, "PWR Refueling Operation: RCS level > 23'OR PWR Shutdown Operation with Time to Boil > 2 hours And Inventory in the Pressurizer," the finding was determined to be of very low safety significance (Green) because the licensee maintained adequate event mitigation capabilities, the event did not result in a change in reactor coolant system inventory or temperature, and it did not require a quantitative risk assessment. This finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to ensure that the equipment and maintenance procedures were adequate to assure nuclear safety.

Inspection Report# : [2013003](#) (*pdf*)

Significance:  Jun 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Appropriately Pre-plan and Perform Maintenance on Safeguards Transformer B

The inspectors reviewed a self-revealing non-cited violation of Technical Specification 5.4.1 and Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," involving the failure to appropriately pre-plan and perform maintenance on equipment that can affect the performance of safety-related equipment. Specifically, the licensee directed contractors to perform work on safeguards transformer B with work instructions, training, and supervisory oversight that was not appropriate for the individuals performing the work. This issue was entered into the licensee's corrective action program as Callaway Action Request 201302280. Corrective actions included a revision

to the work instructions to be more specific on grounding locations and a refocus and retraining of grounding electrical systems. Planned corrective actions include establishing a process for identifying high risk outage activities similar to the process used for online maintenance.

The failure to appropriately pre-plan and perform maintenance on equipment that can affect the performance of safety-related equipment was a performance deficiency. This performance deficiency was more than minor because it adversely affected the procedure quality attribute of the Initiating Events Cornerstone, and 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. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," the finding was determined to be of very low safety significance (Green) because it 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. This finding has a cross-cutting aspect in the human performance area associated with the work practices component because the primary cause for the performance deficiency was that the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2013003](#) (*pdf*)

Mitigating Systems

Significance: G Sep 27, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Administer a Comprehensive Requalification Operating Test

The inspectors identified a non-cited violation of 10 CFR 55.59, "Requalification," for failure to administer a comprehensive annual requalification operating test to one crew. After a quality review by NRC inspectors, it was determined that the job performance measure set administered in Week 2 of the testing cycle did not contain at least 40 percent alternate path job performance measures, as required by Procedure CTM-OPS, "Callaway Training Manual: Operations Programs," Section 6.5.3.g.1.c. One of the job performance measures which the licensee had credited as an alternate path did not meet the criteria to be considered an alternate path, thereby leaving only one actual alternate path job performance measure in the set (20 percent). As an immediate corrective action, the licensee replaced one of the job performance measures from the Week 2 set with a new alternate path job performance measure which was administered to the affected operators, thereby ensuring that the 40 percent requirement was met prior to the completion of the 2-year requalification cycle. This issue was entered into the licensee's corrective action program as Callaway Action Request 201306740.

Failure to administer a comprehensive annual operating test containing at least 40 percent alternate path job performance measures to one crew is a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely impacted the human performance attribute of the Mitigating Systems 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 finding could have become more significant in that allowing licensed operators to return to the control room without a valid demonstration of appropriate knowledge on the annual operating test could be a precursor to a more significant event if latent knowledge deficiencies went unidentified. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green) because, while it was related to annual operating test quality, less than 40 percent of the reviewed job performance measures and simulator scenarios were flawed (Manual Chapter 0609, Appendix I, Flowchart, Blocks 6, 7, and 8). This finding has

a cross-cutting aspect in the area of resources associated with ensuring that work packages (in this case exam packages) are complete, accurate, and up-to-date such that industry standards for exam quality are met.

Inspection Report# : [2013004](#) (*pdf*)

Significance:  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Monitor and Maintain Emergency Core Cooling System Room Coolers

The inspectors identified a non-cited violation of 10 CFR 50.65, involving the licensee's failure to monitor performance of structures, systems, or components in a manner sufficient to provide reasonable assurance that these structures, systems, or components are capable of fulfilling their intended functions. Specifically, the licensee failed to adequately monitor the cooling water flow through the safety related room coolers that periodically became blocked by silting, to ensure they maintained their capability to remove the heat from the rooms. This issue was entered into the licensee's corrective action program as Callaway Action Request 201301108. Corrective actions included a requirement to monitor the flow rates monthly and determine the appropriate monitoring and flushing requirements based on the results.

The failure to monitor performance of structures, systems, or components in a manner sufficient to provide reasonable assurance that these structures, systems, or components are capable of fulfilling their intended functions was a performance deficiency. This performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to be of very low safety significance (Green) because all of the questions received a negative response. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the operating experience component because the licensee failed to systematically collect, evaluate, and communicate relevant internal operating experience about silting of room coolers to internal stakeholders.

Inspection Report# : [2013003](#) (*pdf*)

Significance:  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correctly Screen Repetitive Equipment Failures

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to perform activities affecting quality in accordance with procedures. Specifically, the licensee failed to recognize the significance of repetitive refrigerant leaks on the safety-related Class 1E electrical equipment air conditioning units and assign the appropriate significance level in accordance with APA-ZZ-00500, "Corrective Action Program," Revision 57. This issue was entered into the licensee's corrective action program as Callaway Action Request 201304985. Further corrective actions are being evaluated, including enhancements to Callaway's corrective action procedure for raising significance of repetitive issues and evaluating new enhancements for the corrective action program's screening process.

The failure to perform activities affecting quality in accordance with procedures was a performance deficiency. This performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective of ensuring the reliability of systems that respond to initiating events. Specifically, the licensee failed to recognize the significance of repetitive refrigerant leaks on the safety related Class 1E electrical equipment air conditioning units and assign the appropriate significance level during issue screening, and therefore failed to perform a cause analysis and correct the cause. The finding required a detailed risk evaluation because it involved the potential failure of safety related equipment for longer than the technical specification allowed

outage time. A senior reactor analyst determined that the change to the core damage frequency was much less than E-7/yr (Green). In each case, the affected chiller, while incapable of meeting the 30-day design basis mission time, could have still functioned properly and supported the inverters during the probabilistic risk assessment 24-hour mission time. Therefore, there was no quantifiable increase in the core damage frequency or the large early release frequency. This finding has a cross-cutting aspect in the area of problem identification and resolution with a problem evaluation component, because the licensee failed to fully evaluate the collective body of data regarding the Class 1E air conditioning units such that the resolutions address the causes and extent of condition, including proper classification. Specifically the licensee failed to thoroughly evaluate the repetitive failures all facets of this issue, including properly classifying the refrigerant leaks.

Inspection Report# : [2013003](#) (*pdf*)

Barrier Integrity

Significance: G Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Technical Specification Surveillance Requirements on the Control Room Air Conditioning System

The inspectors identified a non-cited violation of Technical Specification 3.7.11, "Control Room Air Conditioning System (CRACS)," for failure to perform the surveillance requirements specified for the control room air conditioning system. Surveillance Requirement 3.7.11.1 requires the licensee to verify that each control room air conditioning system train has the capability to remove the assumed heat load once every 18 months. The activities that the licensee was crediting to meet the requirement were not adequate because they did not actually verify heat load removal capability. The licensee entered Surveillance Requirement 3.0.3 for a missed surveillance, performed a risk assessment, and will verify that each control room air conditioning system train has the capability to remove the assumed heat load within 18 months. The licensee entered this issue into the corrective action program as Callaway Action Request 201207859.

The inspectors determined that the failure to perform sufficient testing to satisfy a technical specifications surveillance requirement is a performance deficiency. The performance deficiency was more than minor because it impacted the structures, systems, and components and barrier performance attribute for the control room and auxiliary building and the Barrier Integrity Cornerstone objective to provide reasonable assurance that the radiological barrier remains functional. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the finding was determined to be of very low safety significance (Green) because it did not represent an actual degradation of the barrier function of the control room to protect the operators inside from smoke or a toxic atmosphere. The issue has no cross-cutting aspect associated with it because it is not indicative of current licensee performance.

Inspection Report# : [2012005](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : December 03, 2013