Callaway
3Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Conduct Simulator Testing and Maintenance In Accordance with ANSI/ANS-3.5-2009
The inspectors identified a finding with four examples for failing to conduct and evaluate simulator performance testing in accordance with the standards of ANSI/ANS-3.5-2009. Specifically, the licensee failed to do the following:
• set the instantaneous main turbine load reduction to 50 percent as supported by design basis data in the 2014 performance of Transient (11), “Maximum Design Load Rejection”
• include the evaluation of parameter “pressurizer temperature” in the 30 percent, 50 percent, and 80 percent power Steady-State Performance Test as specified in accordance with the standard, Appendix B, Section B.3.1
• include the evaluation of parameter “secondary heat balance data” in the 30 percent, 50 percent, and 80 percent power Steady-State Performance Test as specified in accordance with the standard, Appendix B, Section B.3.1
• replicate the dynamic functioning of annunciators on the simulator panels used during normal, abnormal, off-normal, and emergency evolutions, or to identify and correct noticeable differences in accordance with the standard, Sections 4.2.1.2 and 4.2.1.4
The licensee initiated corrective action documented in Callaway Action Requests 201504760, 201504759, 201504418, and 201504355.

The licensee’s failure to conduct and evaluate performance testing in accordance with the ANSI/ANS-3.5-2009 standard as endorsed by Regulatory Guide 1.149, Revision 4, was the performance deficiency. The performance deficiency is more than minor 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 performance deficiency could have become more significant in that not correcting noticeable differences between the simulator and the reference plant can both leave the potential for negative training of licensed operators and call into question the ability to conduct valid licensing examinations with the simulator. Using Manual Chapter 0609, “Significance Determination Process,” Attachment 4, Tables 1, 2, and 3 worksheets; and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process (SDP),” Flowchart Block #14, the finding was determined to have very low safety significance (Green) because it dealt with deficiencies associated with simulator testing, modification, and maintenance and there was no evidence that the plant-referenced simulator does not demonstrate the expected plant response or have uncorrected modeling and hardware deficiencies related to the examples.

The examples supporting this finding involved actions taken with the simulator testing and maintenance program before the present performance period. Therefore, no cross-cutting aspect is assigned to the finding.
Inspection Report# : 2015003 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Perform Operability Determination Procedure
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 follow their operability determination procedure. Specifically, when an auxiliary feedwater control valve failed to operate from the main control room, the licensee failed to evaluate the operability of the component in accordance with Procedure ODP-ZZ-00001, Addendum 15, "Operability and Functionality Determinations." The immediate corrective action taken by the licensee was to evaluate the operability of the flow control valve. After determining that the equipment was inoperable, the licensee entered the required technical specification condition and performed the required technical specification actions. The licensee entered this issue into their corrective action program as Callaway Action Request 201502708.

This performance deficiency is more than minor and, therefore, a finding, because, if left uncorrected, it has the potential to lead to a more significant safety concern if safety-related systems are not properly evaluated for operability. The finding affects the Mitigating System Cornerstone because the performance deficiency is related to the auxiliary feedwater system's ability to conduct short-term decay heat removal. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to be of very low safety significance because it did not affect system design, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications allowed outage time, and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. This finding has a cross-cutting aspect of challenge the unknown in the human performance cross-cutting area because the licensee did not stop when faced with uncertain conditions. Specifically, rather than declaring the system inoperable and allowing the process to evaluate the condition, the licensee declared the system operable without fully understanding the failure mechanism.
Inspection Report# : 2015003 *(pdf)*

Significance: G Jun 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Properly Implement Compensatory Actions as Directed by Operability Evaluation
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 properly implement procedure directed compensatory actions necessary for operability of safetyrelated equipment. Specifically, when the train B class 1E switchgear air conditioning unit (SGK05B) was taken out of service for maintenance, compensatory measures to open all of the doors between both trains of engineered safety feature ac and dc switchgear and batteries were not implemented correctly. This resulted in less than calculated minimum cooling air flow required under accident conditions to support operability of the associated switchgear. The licensee entered this issue into their corrective action program as Callaway Action Request 201503501. The corrective actions include revising the compensatory action procedures and providing training on the issue.

The licensee's failure to properly implement compensatory actions necessary to maintain operability of safety-related equipment in accordance with plant procedures was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is similar to examples 3.i, 3.j, and 3.k in Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," and it is 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 (i.e., core damage). Specifically, between May 6 and 7, 2015, when the train B class 1E switchgear air conditioning unit (SGK05B) was taken out of service for maintenance, compensatory measures to open all of the doors between both trains of vital batteries, chargers, and engineered safety feature switchgear were not implemented correctly and when discovered required significant evaluation to determine the operability status of the supported equipment during the maintenance. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the finding was determined to be of very low safety significance because it did not affect system design, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications allowed outage time, and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. This finding has a cross-cutting aspect of “Challenge the Unknown” in the human performance cross-cutting area because individuals did not stop when faced with uncertain conditions and risks were not evaluated and managed before proceeding. Specifically, operations personnel did not question why they were only opening one door of a double door set when implementing the compensatory measures to allow cool air in the air conditioned rooms to cool the rooms without air conditioning.
Inspection Report# : 2015002 *(pdf)*

Significance: G Jun 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Operability Evaluation When Taking Emergency Diesel Generator Support Equipment Out of Service
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 an adequate operability evaluation on the train A emergency diesel generator when required support equipment was taken out of service for maintenance. This resulted in necessary compensatory actions not being in place when the support equipment was taken out of service. The immediate corrective action taken by the licensee was to perform a prompt operability determination and implement compensatory measures. The licensee plans to evaluate the current planned maintenance process for safety related support equipment. The licensee entered this issue into their corrective action program as Callaway Action Request 201502708.

The licensee’s failure to perform a prompt operability determination after bounding conditions were applied to the immediate operability determination per plant procedures was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is 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 (i.e. core damage). Specifically, the failure of the licensee to perform an adequate operability evaluation resulted in the failure to implement required compensatory actions to maintain operability of the train A emergency diesel generator. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the finding was determined to be of very low safety significance because it did not affect system design, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications

allowed outage time, and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. This finding has a work management cross-cutting aspect in the human performance cross-cutting area because the licensee did not appropriately implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, not having a clear work process for assessing operability of technical specification components when support systems are taken out of service for planned maintenance led to operators failing to adequately evaluate the operability of the train A emergency diesel generator.
Inspection Report# : 2015002 *(pdf)*

Significance: G May 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify and Evaluate all Targets Within the Zone of Influence of Ignition Sources
The inspectors identified a non-cited violation of 10 CFR 50.48(c) and National Fire Protection Association Standard 805 for the licensee's failure to address the effects of fire damage to risk-significant circuits impacted by an analyzed fire scenario. Specifically, the licensee failed to identify that a target cable raceway containing circuits that could impact the ability to achieve safe and stable conditions during a fire would be impacted during a fire scenario. The licensee entered this issue into their corrective action program as Callaway Action Request 201503262.

The inspectors determined that the failure to identify a fire risk important cable raceway impacted by a fire scenario was a performance deficiency. The performance deficiency was determined to be more than minor because it is associated with the reactor safety Mitigating Systems cornerstone attribute of protection against external factors (i.e., fire) 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. The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix F, "Fire Protection Significance Determination Process," dated September 20, 2013, as the finding affected post-fire safe shutdown. Using IMC 0609, Appendix F, Attachment 1, "Fire Protection Significance Determination Process Worksheet," dated September 20, 2013, the finding was screened as a Green finding of very low safety significance in accordance with Step 1.3.

The finding did not have a cross-cutting aspect since it was not indicative of current licensee performance since the original ignition source and target walkdowns were performed in 2010.

Inspection Report# : 2015007 *(pdf)*

Significance: G Mar 21, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Perform Post-maintenance Testing on Safety-related Equipment Prior to Declaring it Operable
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 conduct post-maintenance testing after maintenance on safety-related equipment prior to declaring the system operable in accordance with Procedure ODP-ZZ-00002, "Equipment Status Control," Revision 76. Specifically, the train A component cooling water system was declared operable before performing post-maintenance testing on the train A safety injection pump lube oil cooler cooling water outlet relief valve after this valve was replaced. Additionally, when the post-maintenance test was later performed, it failed to meet acceptance criteria. Despite the failure, the licensee did not enter the condition into their corrective action program nor write a new job to address the test

failure in accordance with Procedure APA-ZZ-00322, Appendix E, “Post Maintenance Test Program.” The licensee entered this issue into their corrective action program as Callaway Action Request 201501853 and performed a second post-maintenance test, which was completed satisfactorily.
The licensee’s failure to verify that all post-maintenance testing had been completed prior to declaring the system operable was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is similar to example 5.b in Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” and it is 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 (i.e. core damage). Specifically, on October 29, 2014, the train A component cooling water system was declared operable and returned to service for approximately 7 hours without completion of post-maintenance testing. When the post-maintenance testing was performed, it failed to meet the acceptance criteria due to system leakage at the flanged connection. No further actions were taken when the leakage was identified resulting in the train A component cooling water system having a known unevaluated degraded condition adversely affecting the reliability of the system between October 29, 2014, and March 19, 2015. Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the finding was determined to be of very low safety significance because it did not affect system design, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications allowed outage time,
and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. Specifically, the component cooling water leakage could be made up from a safety-related source without loss of function.
This finding has a work management cross-cutting aspect in the human performance cross-cutting area because the licensee did not appropriately implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, omitting the correct equipment out of service log entry from the post-maintenance test work task led to operations returning the equipment to service prior to it being tested.
Inspection Report# : 2015001 *(pdf)*

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Correct a Condition Adverse to Quality on Safety Related Equipment
Inspectors reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” involving the licensee’s failure to correct a condition adverse to quality. Specifically, an extent of condition review for a failed gasket identified that other safety related gaskets installed in the plant were potentially less reliable; however, no action was taken. One of these gaskets failed on October 17, 2014, and caused a 52 gpm leak from the end bell of the train B control room air conditioning chiller affecting the reliability of the train. This issue was entered into the licensee’s corrective action program as Callaway Action Request 201409335. One remaining improperly installed gasket was evaluated and operability was justified.

The inspectors determined the failure to correct a condition adverse to quality was a performance deficiency. This performance deficiency was more than minor because it was associated with and adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, during the

period of November 2013 to October 2014, the failure to correct an improperly installed gasket on a control room air conditioning unit resulted in reduced reliability of the safety related system. Using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to be of very low safety significance (Green) because it did not affect the design or qualification of the system, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications allowed outage time, and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. The finding has an Evaluation cross-cutting aspect within the problem identification and resolution area because the licensee failed to thoroughly evaluate and ensure that the resolution addressed the extent of condition commensurate with its safety significance. Specifically, the extent of condition for improperly installed safety related gaskets was identified; however, the evaluation of the degraded condition did not assess the significance and cause corrective actions to be scheduled in a timely manner commensurate with that significance.
Inspection Report# : 2014005 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Unauthorized Non-Routine Maintenance on a Sealed Source Device
The inspectors identified a non-cited violation of Callaway Plant's License No. NPF-25, Condition 2.B.(3), for the licensee performing non-routine maintenance on a J.L. Shepherd calibrator without license authorization. The licensee documented this issue in their corrective action program as Corrective Action Request 201505175. Their immediate corrective action was to secure the calibration source and review their procedural requirements.

Performing non-routine maintenance on a J.L. Shepherd calibrator without a license authorization is a performance deficiency. This finding is more than minor because the performance deficiency adversely affects the Occupational Radiation Safety Cornerstone, in that, if the licensee performs non-routine maintenance on radiologically risk significant sources without being specifically authorized or trained on how to perform the non-routine maintenance, an uncontrolled high radiation area could result. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined the violation was of very low safety significance (Green) because (1) it was not an as low as reasonably achievable finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding had a conservative bias cross-cutting aspect in the area of human performance, because individuals did not use decision making practices that emphasized prudent choices over those that were simply allowable, or ensure a proposed action was safe in order to proceed, rather than unsafe in order to stop. Specifically, licensee staff assumed that they could perform any type of maintenance on the calibrator without verifying that their license authorized those activities.

Inspection Report# : 2015003 *(pdf)*

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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