

Callaway

3Q/2012 Plant Inspection Findings

Initiating Events

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Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Separation of Stainless Steel and Carbon Steel Hand Files and Wire Brushes

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, for the failure to have procedures that ensured that hand files and wire brushes designated for stainless steel weld preparation were stored separately from hand files and wire brushes used on carbon steel. The licensee took corrective actions to remove the stainless steel designations from stainless steel tools that were mixed with tools used on carbon steel, established segregated locations in tool rooms for the separation of abrasive tools, and trained tool room attendants to properly store and mark abrasive tools designated for use on stainless steel. This issue was entered into the licensee's corrective action program as Callaway Action Request 201108921.

Inspectors determined that the failure to assure that hand files and wire brushes designated for exclusive use on stainless steel were stored separately from tools used on other materials was a performance deficiency. This finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and, if left uncorrected, could become a more significant safety concern. Inspectors performed a Phase 1 screening in accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance because the issue would not result in exceeding the technical specification limit for identified reactor coolant system leakage or affect other mitigating systems resulting in a total loss of their safety function. This finding has a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program, because the licensee did not thoroughly evaluate

problems such that the resolutions addressed causes and extent of conditions, as necessary. Specifically, the licensee's response to Callaway Action Request 201107806 identified contaminated tools as the cause of rusting on the motor-driven auxiliary feed pump room cooler stainless steel piping, but the licensee took no further action to identify the cause of the contamination.

Inspection Report# : [2011005 \(pdf\)](#)

Mitigating Systems

G

Significance: Jul 15, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to identify and correct the failure mode of an essential service water pump

The team reviewed a Green self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct a condition adverse to quality. During troubleshooting, the licensee incorrectly identified a failed circuit card as the cause of an essential service water pump

room fan damper failure. The licensee returned the damper to service and declared the associated pump operable without identifying the actual failure—pinched wires introduced during previous maintenance. This resulted in a subsequent failure.

The failure to identify that pinched wires had caused the damper failure and to correct the condition before replacing the circuit card and declaring the system operable 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 to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the team determined the finding to be of very low safety significance (Green) because it did not result in the loss of the safety function of any system or train and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. This finding had a cross-cutting aspect in the decision-making component of the human performance cross-cutting area because the licensee failed to conduct an effectiveness review of safety-significant decisions to verify the validity of the underlying assumptions or identify possible unintended consequences.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Jul 15, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to provide adequate maintenance instruction

The team reviewed a non-cited violation of Technical Specification 5.4.1.a, “Procedures,” for the licensee’s failure to provide maintenance instructions appropriate for repair of the Train B emergency diesel generator supply fan. These inadequate instructions resulted in maintenance technicians routing and restraining electrical cables inappropriately during maintenance in July 2006. These cables later came loose and, in August 2011, caused a failure of the Train B emergency diesel generator supply fan to start on demand.

The failure to provide maintenance procedures appropriate to the circumstance was a performance deficiency. This finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the team determined that the finding was of very low safety significance (Green) because it did not result in the loss of the safety function of any system or train and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. The team determined that this performance deficiency was not indicative of current plant performance because it was the result of repair instructions written and implemented in 2006. Therefore, no cross-cutting aspect was assigned.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Jul 15, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to initiate a corrective action document.

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure, upon discovery of an adverse condition, to initiate a Callaway Action Request, to notify the shift manager, and to review the condition for, operability, functionality, and reportability in accordance with APA-ZZ-00500, “Corrective Action Program,” revision 54. During planned testing of tornado dampers for the emergency diesel generator rooms, the as-found breakaway torque for the dampers was high out-of-specification. The licensee failed to document this adverse condition in its corrective action program to evaluate it for significance and to determine whether the operability of the emergency diesel generator was adversely affected.

The failure to satisfy the guidance in APA-ZZ-00500 upon identification of high out-of-specification torque measurements on safety-related tornado dampers by initiating a Callaway Action Request, informing the shift manager, and evaluating the condition for operability, functionality, and reportability was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, the licensee's continued failure to conform to APA-ZZ-00500 upon discovery of an adverse condition impacting the EDG tornado protection system had the potential to lead to a more significant safety concern. Using Inspection Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the team determined that the finding was of very low safety significance (Green) because it did not result in the loss of the safety function of any system or train and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. This finding had a cross-cutting aspect in the corrective action program component of the problem identification and resolution cross-cutting area because the licensee failed to completely, accurately, and in a timely manner identify and fully evaluate an issue potentially impacting nuclear safety.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Jul 15, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to fully implement fluid leak management program

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to fully implement the requirements of its fluid leak management procedure. The team identified two instances where the licensee had not hung a fluid leak management tag on an active fluid leak and several examples of fluid leak management tags not indicating whether individual leaks were monitored. Further, the team found no evidence that leakage indications were actively monitored and trended, as required by procedure both before and after repairs were made. The licensee had previously determined that the extent of condition of weaknesses in its boric acid corrosion control program included the fluid leak management program. However, corrective actions only addressed the boric acid corrosion control program.

The licensee's failure to implement the requirements of its fluid leak management procedure was a performance deficiency. The team determined that the performance deficiency was more than minor because if left uncorrected, it had the potential to become a more significant safety concern. Specifically, if the licensee continued to fail to implement its fluid leak management procedure, leaks that adversely affect safety-related equipment could go unmonitored, resulting in equipment degradation. Using Inspection Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the team determined the finding to be of very low safety significance (Green) because it did not result in the loss of the safety function of any system or train and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. The team determined that the finding had a cross-cutting aspect in the corrective action program component of the problem identification and resolution cross-cutting area because the licensee failed to fully evaluate a problem such that the resolution addressed the causes and extent of condition.

Inspection Report# : [2012008 \(pdf\)](#)

Significance: Jun 26, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Incorporate Operating Experience for a 10 CFR 50.65(a)(3) Assessment

The inspectors identified a finding for failure to ensure that a system credited in the Final Safety Analysis Report for mitigating internal flooding was available and reliable. On May 1, 2012, the licensee discovered the floor drains in the engineered safety feature switchgear rooms for both trains were almost completely plugged from debris and were not capable of passing water at the credited flow rate. This was a result of failure to perform inspections or preventive

maintenance on the system since original construction. In May 2005, the NRC issued Information Notice 2005-11 regarding, in part, internal flooding and blocked floor drains. Title 10 of the Code of Federal Regulations 50.65(a)(3) states, in part, that "evaluations shall take into account, where practical, industry-wide operating experience. Adjustments shall be made. . ." Contrary to the above, in 2005, the licensee evaluated, but did not take action on applicable industry-wide operating experience. In response, the licensee cleaned the drains, created preventive maintenance tasks to verify proper floor drain operation, and was evaluating the planned corrective actions to address the violation. These were documented in Callaway Action Requests 201203302 and 201204582.

The inspectors determined that failure to ensure a system credited in the Final Safety Analysis Report was available and reliable to mitigate internal flooding was a performance deficiency. Specifically, the licensee failed to perform preventive maintenance or testing to ensure the engineered safety feature switchgear room floor drains would drain water from the switchgear rooms for both trains at the rate credited for flood mitigation. The inspectors evaluated the performance deficiency in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening." This performance deficiency was more than minor because it affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. During a Phase 1 screening for significance the inspectors determined the finding was potentially risk significant due to its contribution to a flooding initiating event. It was referred to a senior reactor analyst who determined that because the delta core damage frequency was less than 1E-6 and the finding was not a significant contributor to the large early release frequency, the finding was of very low safety significance. This finding does not have a cross-cutting aspect because the performance deficiency is not representative of current licensee performance.

Inspection Report# : [2012003 \(pdf\)](#)

Significance: Jun 26, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Declare Component Cooling Water Train A Inoperable Due to Voids

The inspectors reviewed a self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion V, involving the licensee's failure to properly assess the operability of component cooling water train A when voids were recognized during a post-maintenance run. On March 19, 2012, when component cooling water pump A was started following maintenance, a large void was discovered in the system. Operators diagnosed that voids had been introduced into the system during the restoration of the spent fuel pool train A heat exchanger. Operators declared the system operable based on seeing pump flows and current readings return to normal values; however, several hours later, the licensee discovered that voids were still present in the system and declared the system inoperable. After extensive venting, the licensee declared the system operable based on an acceptable, measurable quantity of voiding in the system. This issue was entered into the licensee's corrective action program as Callaway Action Request 201203506.

Failure to fully assess a degraded condition before declaring component cooling water system train A operable was a performance deficiency. This finding is more than minor because it is associated with the human performance attribute of the Mitigating Systems Cornerstone and affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems to respond to initiating events. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," this finding was determined to be of very low safety significance because it did not create a loss of system safety function of a single train for greater than the technical specification allowed outage time and did not affect seismic, flooding, or severe weather initiating events. 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 institutionalize operational experience through changes to station processes, procedures and training programs to support plant safety.

Inspection Report# : [2012003 \(pdf\)](#)

Significance: May 04, 2012

Identified By: NRC

Item Type: FIN Finding

Failure to establish preventive maintenance for equipment used to achieve post-fire safe shutdown.

The team identified a finding for the failure to establish preventive maintenance of local transfer/isolation switch JEHS0021A, "B D/G Fuel Oil Transfer Pump Iso/Run" for the train B emergency diesel generator fuel oil transfer pump in procedures covering fire protection program implementation. As a result, the licensee failed to ensure that the local control circuit for the fuel oil transfer pump would be isolated from the effects of fire damage caused by a control room fire. The train B emergency diesel generator was the credited alternative ac power supply for the control room fire scenario. The licensee entered this deficiency into their corrective action program as Callaway Action Request System 201202931 to establish preventive maintenance for this component.

The failure to establish preventive maintenance on local transfer/isolation switch JEHS0021A, "B D/G Fuel Oil Transfer Pump Iso/Run" in procedures covering fire protection program implementation was a performance deficiency. Specifically, the licensee failed to ensure that component specific isolation/run switch testing procedures existed and ensured circuit isolation and transfer of control from the control room in the event of a fire. The performance deficiency was more than minor because it was associated with the procedure quality 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. The team evaluated the finding using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because it affected fire protection defense in depth strategies involving post fire safe shutdown. Using Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," the team assigned a low degradation rating to the finding because the capability to achieve safe shutdown in the event of a control room fire would be minimally impacted by the failure to establish a preventive maintenance procedure for the train B emergency diesel generator fuel oil transfer pump local transfer/isolation switch. Because this finding had a low degradation rating, it screened as having very low safety significance (Green). The finding did not have a cross-cutting aspect because it was not indicative of current performance since the performance deficiency existed for more than three years.

Inspection Report# : [2012007 \(pdf\)](#)

Significance: Mar 27, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Properly Evaluate the Design of Steam Generator Drain Plugs

The inspectors reviewed a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," after the licensee failed to ensure that testing used to verify the adequacy of a steam generator drain plug was conducted under expected design conditions. On November 1, 2011, containment workers noticed reactor coolant system leakage out of the steam generator B manway onto the floor. Reactor coolant system water from the reactor cavity was draining past a dislodged tube plug out the steam generator manway onto the floor below. Plant operators verified the spent fuel pool isolation to the reactor cavity was intact and pumped the approximately 400,000 gallons of reactor cavity water to the refueling water storage tank. This stopped the leak and left the reactor coolant system at a midloop condition. The licensee's root cause analysis determined that criteria for the drain plug design and installation specifications were inadequate. Specifically, the plug had not been tested under expected conditions such as a slick environment due to boron in the water. Testing with a simulated boric acid solution revealed that slippage occurred at much lower loads than the 70 psi assumed in the original design review. The possibility of side loads being applied to the plug during eddy current maintenance had also not been properly considered. Callaway Action Request 201109257 was generated with actions to address the causes of the plug becoming dislodged.

This finding is more than minor because it is associated with the reactor coolant system equipment and barrier performance attribute of the Barrier Integrity Cornerstone and affects 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. A senior reactor analyst performed a bounding significance determination using NRC Inspection Manual 0609, Appendix G, "Shutdown Operations Significance Determination Process." The senior reactoranalyst determined that there was very little potential for core damage because Callaway Plant was defueled with the reactor head removed at the time. This finding has no cross-cutting aspect because the design plug was tested in 2007, and therefore, is not indicative of current plant performance.

Inspection Report# : [2012002 \(pdf\)](#)

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Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Simulator Fidelity

The inspectors identified a non-cited violation of 10 CFR Part 55.46(c), "Plant-Referenced Simulators," for failure of the licensee to ensure that the plant-referenced simulator demonstrated expected plant response to transient and accident conditions to which the simulator has been designed to respond. Specifically, the licensee failed to ensure simulator modeling of power-operated relief valve and pressurizer safety valve operation was consistent with the actual plant, introducing the potential for negative operator training. Due to errors made in modeling updates after steam generator replacement in 2005, each pressurizer safety valve was sized in the simulator to allow approximately 3.3 times higher than the design flow rate in the actual plant, and each power operated relief valve was sized to allow approximately 3.5 times higher than the design flow rate capacity provided in the actual plant. The licensee documented their corrective actions for this issue in Callaway Action Request 201101255.

The failure of the licensee's simulator staff to ensure that the plant-referenced simulator demonstrated expected plant response to transient and accident conditions for which the simulator has been designed to respond was a 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 training on related accident scenarios could have a negative impact on how licensed operators would respond to an actual event in the control room. Using 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 there was no actual event at the plant similar to the simulator scenario where inappropriate actions were taken in the control room based on training with incorrectly sized components in the simulator. This finding has no cross-cutting aspect assigned because the cause was not representative of current licensee performance.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Conduct Simulator Testing in Accordance with ANSI/ANS 3.5-1998

The inspectors identified a finding associated with the conduct of simulator performance testing because the licensee was not testing in accordance with the standards of ANSI/ANS 3.5-1998. Specifically, the licensee did not include relief valve flow in their 2010 test of transient (10) of ANSI/ANS 3.5-1998, Appendix B, Section B3.2.1, "Slow Primary System Depressurization to Saturated Condition with Pressurizer Relief or Safety Valve Stuck Open." The licensee initiated corrective action documented in Callaway Action Request 201107912.

Conducting simulator performance testing that was not in accordance with the ANSI/ANS 3.5-1998 standard was a 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 completing the required

simulator testing annually can lead to not detecting and correcting errors in the simulator so that it models the actual plant correctly. Using 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 there was no actual event caused by not modeling the actual plant correctly. This finding has no cross-cutting aspect assigned because the cause was not representative of current licensee performance.

Inspection Report# : [2011005](#) (pdf)

G

Significance: Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Assess and Manage Outage Risk Associated with Significant Switchyard Work

The inspectors identified a non-cited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," involving the licensee's failure to assess and manage outage risk related to significant switchyard work. Specifically, the licensee allowed risk significant relay test work to result in loss of one of two offsite safety related 4 kV power feeds to the plant during Refueling Outage 18. With Callaway Plant in Mode 6, "Refueling," the risk assessment for October 21, 2011, and the Outage Shutdown Management Plan prohibited significant switchyard work. However, at 1:21 p.m., emergency diesel generator A bus NB01 became deenergized due to improper switchyard testing. Callaway Action Request 201108888 was initiated to develop corrective actions.

Failure to properly assess and manage the risk of significant switchyard work during a high decay heat condition was a performance deficiency. This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The offsite power system was affected by this event. Using 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," this finding was determined to be of very low safety significance because it did not increase the likelihood of a loss of reactor coolant system inventory, did not degrade the ability to terminate a leak path or add reactor coolant system inventory when needed, and did not degrade

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the ability to recover decay heat removal, if lost. This finding has a cross-cutting aspect in the area of human performance associated with the resources component because Procedure EDP-ZZ-01129, "Callaway Plant Risk Assessment," Attachment 6, Step 6.c, was not sufficiently complete and accurate to define significant switchyard work.

Inspection Report# : [2011005](#) (pdf)

G

Significance: Dec 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Improper Ground and Test Device Damages Residual Heat Removal Pump Switchgear

The inspectors reviewed a Green self-revealing non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Procedures," involving the licensee's failure to correctly install a ground test device for the train A safety-related 4160 volt switchgear, NB01. During maintenance on the train A safety related bus, workers improperly placed a ground test device with 2000 ampere stab adapters into the 1200 ampere breaker cubicle (for the residual heat removal pump). This damaged the switchgear connection point and caused the breaker to fail, rendering the pump inoperable. The reactor was defueled so the residual heat removal system was not required by technical specifications at the time, but the bus was required to be removed from service for repairs. The licensee repaired the bus connection point, and the pump was retested satisfactorily. This finding was entered into the licensee's corrective action program as

Callaway Action Request 201109122.

Failure to install the correctly configured ground and test device into the NB0101 cubicle of the NB01 switchgear was a performance deficiency. This is more than minor because it is associated with the human performance attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, improper maintenance caused the residual heat removal pump to become unavailable. Because no fuel was in the vessel at the time of the event, the inspectors referred the issue to a Region IV senior reactor analyst for the significance determination. The analyst used NRC Inspection Manual 0609, Appendix G, "Shutdown Operations Significance Determination Process," to evaluate the significance of the finding. Since all of the fuel had been removed from the vessel there was no potential for core damage (the delta core damage frequency was zero).

Therefore, the finding is of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance associated with the resources component in that the licensee failed to ensure training of maintenance personnel was adequate to assure nuclear safety.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Isolate Control Room Air Comditining Unite SGK04A for Maintenance

The inspectors reviewed a Green self-revealing non-cited violation of Technical Specification 5.4.1.a, "Procedures," involving the failure to isolate an electrical power supply during maintenance on control room air conditioning system train A. Specifically, while removing an electrical cabinet for maintenance, workers discovered an energized lead that was supposed to have been isolated for the work. Workers failed to stop work and make appropriate notifications. As a result, when the lead was reterminated, it grounded the bus and caused inverter NN11 to shift to an alternate power supply. This caused operators to make an unplanned entry into a 24-hour shutdown technical specification action statement. The licensee restored normal power to inverter NN11 within 4 hours. This issue was entered into the corrective action program as Callaway Action Request 201107612.

Failure to stop work when a lockout tagout isolation was discovered to be inadequate was a performance deficiency. This finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, inverter NN11 was rendered less reliable by the improper maintenance. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," this finding was determined to be of very low safety significance because it did not create a loss of system safety function of a single train for greater than the technical specification allowed outage times, and did not affect seismic, flooding, or severe weather initiating events. This finding has a cross-cutting aspect in the area of human performance associated with the work practices component because licensee personnel failed to stop in the face of uncertainty or unexpected circumstances.

Inspection Report# : [2011005 \(pdf\)](#)

G

Significance: G Dec 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Correctly Implement Plant Maintenance Procedures

The inspectors reviewed a self-revealing non-cited violation of Technical Specification 5.4.1.a, "Procedures," involving the failure to ensure compliance with relay test maintenance procedures associated with electrical switchyard work that affected the performance of safety related equipment. On October 21, 2011, Callaway Plant was in Mode 6 with switchyard activities in progress to test transfer trip and lockout relay devices. At 1:21 p.m. the control room operators received several annunciators indicating that diesel generator bus A and its safety related loads had

become deenergized. An improperly operated lockout relay had cascaded a test signal onto other components in the plant electrical system. This issue was entered into the corrective action program as Callaway Action Request 201108691.

Failure to establish the safe working conditions per the transfer trip procedure and failure to operate the lockout relay in the manner specified by the lockout relay procedure were performance deficiencies. This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, one of the two offsite power feeds to the plant was lost. Using 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,” this finding was determined to be of very low safety significance because it did not increase the likelihood of a loss of reactor coolant system inventory, did not degrade the ability to terminate a leak path or add reactor coolant system inventory when needed, and did not degrade the ability to recover decay heat removal. This finding has a cross-cutting aspect in the area of human performance associated with the work controls component because the electrical relay test technicians, onsite engineering, and work control staff failed to adequately maintain interfaces to communicate and safely coordinate significant switchyard activities to ensure proper human performance.

Inspection Report# : [2011005](#) (pdf)

Barrier Integrity

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

Significance: N/A Jul 15, 2012

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Review

The team reviewed approximately 200 condition reports, work orders, engineering evaluations, root and apparent cause evaluations, and other supporting documentation to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The team reviewed a sample of system health reports, self assessments, trending reports and metrics, and various other documents related to the corrective action program. The team concluded that with limited exceptions, the licensee maintained a corrective action program in which issues were generally identified at an appropriately low threshold. Issues entered into the corrective action program were appropriately evaluated and timely addressed, commensurate with their safety significance. Corrective actions were generally effective, addressing the causes and extents of condition of problems.

The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee used industry operating experience when performing root cause and apparent cause evaluations. The licensee performed effective quality assurance audits and self assessments, as demonstrated by its self identification of some minimally effective corrective action program performance and identification of ineffective corrective actions.

The licensee maintained a safety-conscious work environment in which personnel felt free to raise safety concerns without fear of retaliation. All individuals interviewed by the team were willing to raise these concerns by at least one of the several methods available.

Inspection Report# : [2012008 \(pdf\)](#)

Last modified : November 30, 2012