Callaway
4Q/2003 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2003
Identified By: Self Disclosing
Item Type: FIN Finding
The failure of a licensed operator to follow a procedure resulted in an unplanned plant transient.
An unplanned plant transient resulted from the failure of an operator to follow a written procedure. The transient occurred after the unexpected loss of all plant service cooling water and all but one of the condenser circulating water pumps. Cooling water was lost after an operator inadvertently opened the feeder breaker supplying power to the pumps.

This finding is greater than minor because the operator error affected the human performance attribute of the initiating events cornerstone. The inspectors determined that the finding did not contribute to the likelihood of a primary or secondary system loss of coolant accident initiator, did not contribute to a loss of mitigation equipment functions, and did not increase the likelihood of a fire or internal/external flood. The finding was similar to Example 4.b in MC 0612, Appendix E and was entered into the licensee's corrective action program as Callaway Action Request (CAR) 200308178.
Inspection Report# : 2003006*(pdf)*

Mitigating Systems

Significance: G Oct 21, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Required Compensatory Measures When CREVIS Operation Rendered ESF Switchgear Room Halon System Inoperable
The licensee did not recognize that the halon system protecting both engineered safety feature switchgear rooms was rendered inoperable and, therefore, failed to take the required compensatory action when the control room emergency ventilation and isolation system was in operation. Two ventilation dampers in parallel through the common fire wall between these rooms open when this system starts. The team identified that these dampers do not automatically shut when the halon system actuates. The halon system would not be capable of reaching the required concentration to suppress a fire because halon would be allowed to escape under these conditions. License Condition 2.C.(5)(c) requires that the licensee implement and maintain in effect all provisions of the approved fire protection program as described in the Standardized Nuclear Unit Power Plant System Final Safety Analysis Report. Updated Final Safety Analysis Report, Table 9.5.1-2, "Halon Systems," requires that when this halon system is inoperable, the licensee shall establish a continuous fire watch with backup fire suppression capability in the affected area. Contrary to this, on numerous occasions throughout the operating life of the plant, the team found that the licensee had failed to post a continuous fire watch whenever the vital switchgear room halon system was rendered inoperable due to testing of the control room ventilation system. This violation of License Condition 2.C.(5)(c) will be treated as a noncited violation, consistent

with Section VI.A of the Enforcement Policy. This issue was in the licensee's corrective action program under Callaway Action Request 200307189.

This finding was greater than minor because it involved the potential degradation of a fire protection feature protecting the electrical distribution equipment powering both trains of mitigating systems. This finding is of very low safety significance because the fire ignition frequency in the rooms affected is low, the remaining fire detection and suppression capability are unaffected, and sufficient accident mitigation equipment was available.
Inspection Report# : 2003007*(pdf)*

Significance: G Sep 20, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective corrective actions following an EDG rocker arm lube oil valve mispositioning.
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." This violation was related to inadequate corrective actions taken following an emergency diesel generator rocker arm lube oil valve mispositioning. The licensee's corrective actions were not adequate to prevent recurrence.

This finding was greater than minor because it could reasonably be viewed as a precursor to a significant event and if left uncorrected, would become a more significant safety concern. This finding was of very low safety significance because the condition was not a design or qualification deficiency, did not represent the actual loss of a safety function of a system, did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, did not represent the loss of a non-Technical Specification related train for greater than 24 hours, or did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.
Inspection Report# : 2003005*(pdf)*

Significance: G Jun 21, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to correct recurring air voiding condition on containment spray system.
The inspectors concluded that voiding of the containment spray suction header occurred on two occasions during the inspection period. The voiding occurred because the licensee failed to properly fill and vent the suction piping following maintenance. The inspectors concluded this condition was a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, and was a finding of very low safety significance.

This finding had actual safety significance because the condition resulted in repeated air voiding of a safety-related pump. This finding was greater than minor because it was similar to Example 2C of Appendix E of Inspection Manual Chapter 0612 (i.e., a repetitive issue involving degradation of a safety-related pump). This finding was of very low safety significance because the condition was not a design or qualification deficiency, did not represent the actual loss of a safety function of a system, did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, did not represent the loss of a non-Technical Specification related train for greater than 24 hours, or did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.
Inspection Report# : 2003004*(pdf)*

Significance: G Jun 21, 2003
Identified By: Self Disclosing

Item Type: NCV NonCited Violation
Failure to correctly install a pressurizer safety valve inlet gasket due to inadequate work instructions.
The inspectors concluded that the pressurizer safety valve seat leakage, and subsequent plant shutdown, was the result of incorrect valve reassembly during the previous refueling outage. The inspectors concluded that this condition was a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, and a finding of very low safety significance.

This finding was greater than minor because it was associated with the mitigating system equipment performance cornerstone attributes and it affected the availability/reliability cornerstone objective. This finding was of very low safety significance because the condition was not a design or qualification deficiency, did not represent the actual loss of a safety function of a system, did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, did not represent the loss of a non-Technical Specification related train for greater than 24 hours, or did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.
Inspection Report# : 2003004*(pdf)*

Significance:  Jun 06, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to implement effective corrective actions.
The licensee failed to promptly identify, correct, or preclude recurrence of an industry known potential significant condition adverse to quality associated with failures of Magne-Blast 4160 Volt circuit breakers. The breaker failures were the result of a defective contact block assembly used as control switches in the breaker control circuits.

The failure to promptly identify, correct, or preclude recurrence of the deficient condition from affecting multiple safety related components due to failures of Magne-Blast 4160 volt circuit breakers was determined to be a violation of 10 CFR Part 50, Appendix B, Criterion XVI. This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. This finding is greater than minor because if left uncorrected this condition impacts the reliability and availability of all safety related loads supplied by Magne-Blast 4160 Volt circuit breakers. This finding was determined to be of very low safety significance since all failures reviewed did not result in loss of a safety function for a single train for greater than its Technical Specification allowed outage time.
Inspection Report# : 2003010*(pdf)*

Significance:  Mar 22, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure of the turbine-driven auxiliary feed pump due to incorrectly manufactured and installed part.
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, for failure to correctly manufacture and install a valve stem on the turbine-driven auxiliary feedwater turbine. Appropriate quantitative and qualitative measures were not utilized to assure that the valve stem was manufactured to the correct dimensions, as required by Appendix B, prior to installation.

This finding had actual safety significance because the condition resulted in the failure of the turbine-driven auxiliary feedwater pump to respond to a valid demand signal. The finding was more than minor because it was associated with the mitigating system equipment performance cornerstone attribute and adversely affected the availability/reliability cornerstone objective. This finding was of very low safety significance because the condition was not a design or qualification deficiency, did not represent the actual loss of a safety function of a system, did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, did not represent the loss of a non-Technical Specification related train for greater than 24 hours, or did not screen as

potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.
Inspection Report# : 2003003*(pdf)*

Barrier Integrity

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate incorporation of design information into work instructions lead to the failure of a pressurizer block valve.
The inspectors identified a finding and NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." This finding is related to inadequate incorporation of design information into the work instructions for modifications to a pressurizer PORV block valve actuator circuit. The inadequate work instructions resulted in the failure of the valve actuator following return to service.

This finding is greater than minor because the block valve failure affected the reactor coolant system equipment and barrier performance attribute of the barrier integrity cornerstone. The inspectors evaluated the condition with the Phase 2 worksheet because the finding involved the reactor coolant system barrier. This finding is only of very low safety significance because the block valve inoperability did not significantly contribute to an increase in core damage frequency. The licensee placed this issue in their corrective action program as CAR 200306563.
Inspection Report# : 2003006*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate postmaintenance test of a pressurizer power operated relief block valve.
The inspectors identified a finding and noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." This finding is related to inadequate testing of the pressurizer power operated relief valve (PORV) block valve following modifications to the actuator circuit. The testing failed to detect that the valve actuator had failed.

This finding is greater than minor because the block valve failure affected the reactor coolant system equipment and barrier performance attribute of the barrier integrity cornerstone. The inspectors evaluated the condition with the Phase 2 worksheet because the finding involved the reactor coolant system barrier. The finding was only of very low safety significance because the block valve failure did not significantly contribute to an increase in core damage frequency. The licensee placed this issue in their corrective action program as CAR 200306563.
Inspection Report# : 2003006*(pdf)*

Significance: G Sep 20, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective actions following an unanalyzed condition.
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." This violation was related to inadequate corrective actions taken following identification of an unanalyzed condition (control room ventilation envelope door open) which resulted in the postulated postaccident control room dose limits to

be exceeded. The licensee's corrective actions failed to prevent recurrence of the condition.

This finding was greater than minor because it was associated with the integrity of the control room envelope. Because this finding involved the degradation of barrier integrity, the finding was evaluated using the significance determination process for at-power situations. The inspectors concluded that the finding was only of very low safety significance because the finding only represented a degradation of the radiological barrier function provided for the control room.
Inspection Report# : 2003005*(pdf)*

Significance: G Sep 20, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure of containment radiation monitors to meet Technical Specifications operability requirements.
The inspectors identified a green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, associated with the licensee's failure to assure that applicable regulatory requirements and the design basis for the containment radiation gas monitors were correctly translated into Calculation GT-13 and, ultimately, the radiation monitor setpoint. This deficiency resulted in the containment gaseous channel becoming incapable of performing the design bases function to detect a one gallon per minute reactor coolant system leak within one hour in accordance with the licensee's commitment to Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems."

This finding was greater than minor because the containment gas channel radiation monitor was not capable of performing the design basis function for an extended period of time. The inoperability of the radiation monitor resulted in potential impact on reactor safety and adversely affected the reactor coolant leakage performance attribute of the barrier integrity reactor safety cornerstone. The finding was only of very low safety significance because other methods of reactor coolant system leak detection were available to the licensee. The unavailability of the gaseous channel leak detection function did not contribute to an increase in core damage sequences when evaluated using the significance determination process Phase 2 worksheets.
Inspection Report# : 2003005*(pdf)*

Significance: G Jan 08, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to isolate an inoperable containment penetration flow path.
A noncited violation of Technical Specification Action 3.6.3, Containment Isolation Valves, occurred when the licensee failed to isolate an inoperable component cooling water containment penetration flow path within the prescribed 4 hours.

This finding had actual safety significance because it resulted in one of two automatic containment isolation engineering features to be disabled and would have become a more significant safety condition if left uncorrected. This finding was more than minor because it was associated with barrier performance, the containment isolation reliability cornerstone attribute, and adversely affected the barrier integrity cornerstone objective. This finding was evaluated using Appendix A of the reactor safety significance determination process and determined to be of very low safety significance because the condition did not affect the control room barrier function or represent an actual open containment pathway.
Inspection Report# : 2003003*(pdf)*

Emergency Preparedness

Significance: W Mar 21, 2003
Identified By: NRC
Item Type: VIO Violation
Failure to meet the Alert Notification System design criteria due to programmatic deficiencies resulting in an inaccurate Tone Alert Radio database in apparent violation of 10 CFR 50.47(b)(5).
Between September 1998, and November 2002, due to programmatic inadequacies, a small percentage of residences in the licensee's plume exposure emergency planning zone would not have received an emergency alerting signal in the event of an emergency at the Callaway facility. The failure to establish a means to notify members of the public in the emergency planning zone was a violation of 10 CFR 50.47(b)(5), and also involved cross cutting aspects in the area of problem identification.

The finding had greater than minor significance because the condition, if left uncorrected, would have continued to degrade resulting in additional loss of alert notification capability. A Significance Determination Process review determined that the issue had low to moderate safety significance (White). The finding was entered in the licensee's corrective action program as Callaway Action Request System Item CARS 200208007. The final significance determination (White) and Notice of Violation were transmitted to the licensee in a letter dated June 20, 2003.

The NRC performed a supplemental inspection to assess the licensee's evaluation associated with the failure to meet requirements of 10 CFR 50.47(b)(5), in that the licensee did not establish a means to notify members of the public in the emergency planning zone of an emergency using tone alert radios in areas lacking effective siren coverage. This performance issue was previously characterized as having low to moderate risk significance (White) in NRC Inspection Report 50-483/03-08. During this supplemental inspection, performed in accordance with Inspection Procedure 95001, the inspector determined that the licensee performed a satisfactory evaluation of the White finding. The licensee's evaluation identified the primary root causes of the performance issue to be: (1) situations that were not covered in procedures, (2) inadequate supervision of the Senior Nuclear Clerks, and (3) turn-over processes for the Senior Nuclear Clerks required improvement.

Given the licensee's acceptable performance in addressing the issue, the White finding associated with this issue will only be considered in assessing plant performance for a total of four quarters in accordance with the guidance in Inspection Manual Chapter 0305, "Operating Reactor Assessment Program." The issue was identified in the first quarter of 2003, therefore it will no longer be considered in assessing plant performance after the fourth quarter of 2003.
Inspection Report# : 2003008*(pdf)*
Inspection Report# : 2003012*(pdf)*

Occupational Radiation Safety

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to barricade a high radiation area.
The inspectors identified a non-cited violation of Technical Specification 5.7.1 because the licensee failed to barricade a high radiation area to prevent inadvertent entry. Specifically, on October 21, 2003, while performing independent

radiation measurements, the inspectors identified a high radiation area on the 2031-foot elevation of the radwaste building that was not enclosed by a barricade. Radiation dose rates around a demineralizer sample panel drain tank were as high as 140 millirems per hour at 30 centimeters from the surface penetrated by the radiation. The finding is in the licensee's corrective action program as CAR 200307676.

This finding was greater than minor because inadequate controls of high radiation areas affect the licensee's ability to ensure adequate protection of worker health and safety from exposure to radiation and affected the cornerstone attribute/exposure control. Because the finding involved the potential for workers to receive significant unplanned, unintended dose as a result of conditions contrary to technical specification requirements, the inspector used the Occupational Radiation Safety Significance Determination Process described in Manual Chapter 0609, Appendix C, to analyze the significance of the finding. The inspector determined that a substantial potential for overexposure did not exist; therefore, the finding had very low significance.
Inspection Report# : 2003006*(pdf)*

Significance: G Feb 13, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to perform radiological surveys.
Inspectors identified two examples of a violation of 10 CFR 20.1501(a) for failure to perform radiological surveys. The licensee failed to collect airborne samples to evaluate the potential for airborne activity during the removal and reinstallation of contaminated insulation on Valve BB8378A on October 29 and November 15, 2002, respectively. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Callaway Action Request System Number 200300355.

The issue was more than minor because the failure to perform a radiological survey has the potential for unplanned or unintended dose which could have been significantly greater as a result of higher levels of airborne activity. The safety significance of this finding was determined to be very low by the Occupational Radiation Safety Significance Determination Process because it did not involve ALARA planning and controls, there was no personnel overexposure, there was no substantial potential for personnel overexposure, and the finding did not compromise the licensee's ability to assess dose.
Inspection Report# : 2003003*(pdf)*

Public Radiation Safety

Significance: G Jul 02, 2003
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Dose rates on the external surface of a package in excess of DOT limits.
The licensee failed to maintain contact dose rates to 200 millirems per hour or less on a package transported in an open, exclusive use shipment, in violation of 49 CFR 173.441(b)(1).

This self-revealing, noncited violation was greater than minor because the finding is associated with one of the Public Radiation Safety Cornerstone attributes (transportation packaging) and the finding affects the associated cornerstone objective (to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain). The finding was related to an occurrence in the licensee's radioactive material transportation

program that was contrary to Department of Transportation regulations and, therefore, was processed through the Public Radiation Safety Significance Determination Process. The finding is of very low safety significance because it involved a radiation dose limit (200 millirems per hour) that was exceeded, but the dose rate (300 millirems per hour) did not exceed the limit by more than two times and it was not accessible to the public.
Inspection Report# : 2003009*(pdf)*

Physical Protection

Significance: N/A Feb 14, 2003
Identified By: NRC
Item Type: FIN Finding
Verification of Compliance With Interim Compensatory Measures Order
On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.
Inspection Report# : 2003002*(pdf)*

Miscellaneous

Significance: N/A Jun 06, 2003
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
On the basis of the sample selected for review, the team concluded that in general, problems were adequately identified, evaluated, and corrected. The team identified a number of examples pertaining to the failure to promptly identify and correct conditions adverse to quality. One long-standing issue involving a failure to promptly identify and correct voided conditions affecting both trains of the containment spray system suction piping following abnormal system response during surveillance testing on multiple occasions dating back to 1995 was identified by the team. Problem identification and resolution issues have affected Callaway historically and corrective actions have been put in place to improve performance. The team noted that engineering products reviewed effectively supported the corrective action process, were technically adequate, and provided sufficient justification to support operability for degraded conditions evaluated.
Inspection Report# : 2003010*(pdf)*

Significance: N/A Jan 30, 2003
Identified By: NRC
Item Type: FIN Finding
Implementation of identification and resolution of problems program
Issues associated with a failure to identify and adequately evaluate an operability issue associated with the auxiliary feedwater system and two examples of inadequate corrective actions for conditions adverse to quality provided indications that the licensee had weaknesses in their problem identification and resolution program. The team found the licensee effectively implemented changes to address these problem identification and resolution program weaknesses. Problems were identified at the proper threshold and entered into the corrective action program. Risk information was effectively used to prioritize the extent of evaluation and to determine the schedule for implementation of corrective

actions. Corrective actions, when specified, were typically implemented in a timely manner. During interviews workers indicated no reluctance to place safety issues into the problem identification and resolution program. However, a licensee survey indicated that some employees felt that they had received negative repercussions for raising issues.
Inspection Report# : 2002003*(pdf)*

Significance: SL-III May 14, 2001
Identified By: NRC
Item Type: VIO Violation
Discrimination against a security officer and a training instructor for having engaged in protected activity
10 CFR 50.7(a) prohibits discrimination by a Commission licensee against an employee for engaging in certain protected activities. On October 27, 1999, the security officer and the training instructor identified to the Wackenhut Corporation a violation of NRC requirements at the Callaway Nuclear Plant. Based at least in part on this protected activity, the Wackenhut Corporation unfavorably terminated the security officer's employment for lack of trustworthiness and gave a written reprimand to the training instructor on November 19, 1999.

In consideration of the severity of the actions taken against the former security officer and the training instructor, the level of management involved in the adverse action, and the nature of contractor/licensee relationships, this violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600 at Severity Level III (EA-01-005, dated May 14, 2001).
Inspection Report# : 2001003*(pdf)*

Last modified : March 02, 2004