Callaway
3Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Mar 24, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Safety injection due to operator error
A self-revealing finding and a noncited violation of Technical Specification 5.4.1, "Procedures," was identified after an operator error resulted in an unplanned safety injection and main steamline isolation. The operator failed to place pressurizer pressure control in automatic during plant heatup operations. Pressurizer pressure exceeded the Permissive P-11 setpoint, while the main steamline pressure was still below the safety injection setpoint.

This finding is greater than minor because the safety injection was a transient initiator contributor affecting the initiating events cornerstone. The operator's failure to follow the procedure was a performance deficiency which affected the human performance attribute of the initiating events cornerstone. The inspectors concluded that this finding is of very low safety significance because the condition 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 of equipment functions, and did not increase the likelihood of a fire or internal/external flood.
Inspection Report# : 2004002*(pdf)*

Significance: G Mar 24, 2004
Identified By: Self Disclosing
Item Type: FIN Finding
Loss of the TDAFW pump during a transient
A self-revealing finding was identified after the unplanned loss of the turbine- driven auxiliary feedwater pump during a plant transient. After a reactor trip, an operator improperly secured the turbine-driven auxiliary feedwater pump, which lead to an overspeed trip.

This finding was greater than minor because the loss of the turbine-driven feedwater pump affected the availability/reliability objective of the mitigating system equipment performance cornerstone. The inspectors concluded that this finding was only of very low safety significance because: it was not a design or qualification deficiency, it did not represent the actual loss of the safety function of a system, it did not represent the actual loss of the safety function of a single train for greater than its Technical Specification allowed outage time, it did not represent the loss of a non-Technical Specification related train (designated as risk significant per 10 CFR 50.65 a(4)) for greater than 24 hours, and it did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event. The licensee's placed the issue into the corrective action program as CAR 200401167.
Inspection Report# : 2004002*(pdf)*

Significance: G Mar 24, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Reactor trip during power ascension
A self-revealing finding and a noncited violation of Technical Specification 5.4.1, "Procedures," was identified after an operator error resulted in an unplanned reactor trip. The operator's action to open the main feedwater regulating valves, before the plant was stable and at the prescribed power level, was the direct cause of the reactor trip.

This finding is greater than minor because the reactor trip was a transient initiator affecting the initiating events cornerstone. The operator's failure to follow the procedure was a performance deficiency which affected the human performance attribute of the initiating events cornerstone. The inspectors determined this finding to be of very low safety significance (Green), because the condition 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 of equipment functions, and did not increase the likelihood of a fire or internal/external flood. The licensee placed the issue into the corrective action program as CAR 200401167.
Inspection Report# : 2004002*(pdf)*

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 Sep 23, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate selection and suitability review of installation of lead radiation shield blankets in containment.
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, Design Control, after the licensee failed to perform an adequate selection and suitability review prior to installing 132 lead radiation shield blankets in containment. The licensee did not address the effect that blankets may have on safety related equipment during accident conditions. During an accident, some of the blanket coverings/coatings may deteriorate into foreign material and be transported to the containment sump. Once at the sump, this foreign material may challenge emergency core cooling system recirculation function by reducing the available net positive suction head to the residual heat removal and containment spray pumps.

The finding is greater than minor because it affected the cornerstone objective to ensure availability and reliability of the containment sump. This finding is only of very low safety significance because the condition was not a design or qualification deficiency confirmed to result in loss of function per GL 91-18; did not result in an actual loss of safety function of a system; did not increase the likelihood of a fire; and did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event. The licensee placed this issue in their corrective action program as CAR 200404836.
Inspection Report# : 2004004*(pdf)*

Significance: G Mar 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate smoke alarm response procedure for control room supply.
The alarm response procedure for responding to smoke in the control room outside supply duct was inadequate because it did not direct operators to isolate outside air makeup upon receipt of the alarm. This alarm would not cause an automatic isolation of the control room, so operators must recognize the condition and take manual action to prevent losing control room habitability. Failure to have a procedure, required by Technical Specification 5.4.1.a and Regulatory Guide 1.33, that provided appropriate response actions for abnormal or alarm conditions was a violation. This issue was entered into the licensee's corrective action program under Callaway Action Request 200306977.

This issue was more than minor because failure to isolate the control room ventilation could lead to unnecessary evacuation, which would result in a plant transient and disabling much of the mitigation equipment that would otherwise be available. This issue was of very low safety significance because the frequency of the specific fire scenario necessary to cause an unnecessary control room evacuation was determined to be very small.
Inspection Report# : 2004002*(pdf)*

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)*

Barrier Integrity

Significance: G Sep 28, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to test automatic recirculation control valves recirculation isolation feature.
A noncited violation of 10 CFR Part 50, Appendix B, Criteria XI, "Test Control," was identified for the failure to establish a test procedure with appropriate acceptance criteria to verify the proper operation of the auxiliary feedwater system automatic recirculation control valves. This issue was entered into the corrective action program as Callaway Action Request 200407321.

The finding is greater than minor because it affected the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding is associated with the cornerstone attribute of procedure quality. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of every low safety significance because there was no actual loss of a safety function.
Inspection Report# : 2004008*(pdf)*

Significance: G Apr 12, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Inadequate Work Instructions Resulted in the Failure of Residual Heat Removal Pump Seal.
Green. A self-revealing finding and noncited violation of Technical Specification 5.4.1, "Procedures," was identified after maintenance resulted in the failure of a residual heat removal pump seal during shutdown cooling operations. The licensee's maintenance work instructions were not adequate to ensure the mechanical seal matting ring surface was fully seated when replaced on March 31, 2004. The seal failed on April 11 after about 36 hours of operation.

This finding was greater than minor because it affected the barrier integrity cornerstone attribute of procedure quality, as related to maintenance procedures affecting the functionality of containment. The failed seal provided a containment leakage path for 7 gallons per minute reactor coolant. The inspectors evaluated the finding using the significance determination process for at-power situations because the issue involved the potential degradation of containment barrier integrity during power operations prior to the reactor shutdown on April 10. The finding was only of very low safety significance because the condition did not represent an actual open pathway in the physical integrity of reactor containment during power operation, was not an actual reduction of the atmospheric pressure control function of the reactor containment, and did not represent a degradation of a the control room auxiliary building or spent fuel pool barrier function. The licenses placed the issue into the corrective action program as CAR 200402749.
Inspection Report# : 2004003*(pdf)*

Significance: G Apr 02, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate procedure for implementation of TS 5.5.2.
The team identified a noncited violation of Technical Specification 5.4.1(e) for failure to establish an adequate procedure for evaluating emergency core cooling system leakage outside of containment as required by Technical Specification 5.5.2.

This finding was more than minor since it represented a programmatic weakness which, if left uncorrected could become a more significant safety concern. This finding screened as Green, very low safety significance, during the SDP Phase 1 analysis, because it only represented a degradation of the radiological barrier function provided for the control room and auxiliary building.
Inspection Report# : 2004006*(pdf)*

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)*

Emergency Preparedness

Significance: G Sep 23, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to classify and declare an unusual event following a fire in the protected area.
The inspectors identified a noncited violation of 10CFR50.54(q), 10CFR50.47(b)(4), and Section IV.B of Appendix E of 10CFR Part 50, which involved the failure to correctly classify an UE in accordance with the emergency plan and implementing procedures. The operations crew did not activate the emergency plan for a fire in the proteted area, adjacent to the control building, which lasted longer than 15 minutes from verification. This finding has human performance crosscutting aspects in that the licensee failed to properly apply event evaluation criteria.

This finding is more than minor because it affected the response organization performance attribute of the emergency preparedness cornerstone due to failure to properly recognize plant conditions commensurate with an UE classification. This finding was of very log safety significance, because it did not meet any higher level emergency plan and implementing procedure notification requirements. The licensee placed the issue into the corrective action program as Callaway Action Request 200407284.
Inspection Report# : 2004004*(pdf)*

Occupational Radiation Safety

Significance: G Jun 23, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Inadequate Operational Control Resulted in an Unexpected High Radiation Field.
Green. A self-revealing finding and NCV of Technical Specification 5.4.1 was identified after three plant workers were exposed to an unplanned high radiation area. The event was the result of inadequate operational control of the in-core system. The exposure occurred when a reactor engineer removed two in-core detectors from the core after control room personnel authorized a reactor building entry. The procedure

used by the reactor engineer to operate the in-core system was not appropriate to the circumstances.

The inspectors used the occupational radiation safety determination processes to analyze the significance of the finding. This finding was greater than minor because it affected the programs and process attribute of the occupational radiation safety cornerstone. The use of the inappropriate procedure could have resulted in unplanned or unintended dose which could have been significantly greater as a result of a single, minor, alteration of the circumstances. The inspectors concluded the issue was of very low safety significance because the inspection finding was not related to as low as is reasonably achievable, did not involve an overexposure, and there was no substantial potential for overexposure. The licensee entered this issue into the corrective action program as Callaway Action Request 200402640. This issue was determined to have crosscutting aspects regarding human performance.
Inspection Report# : 2004003*(pdf)*

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)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: G Apr 02, 2004
Identified By: NRC
Item Type: FIN Finding
Identification and resolution of problems.
The team reviewed approximately 105 corrective action documents, 28 self-assessments and audits, and numerous procedures, industry information, and other documents. The team determined that there was a general improvement in implementation of the corrective action program; thresholds for identifying issues remained appropriately low, and in most cases, corrective actions were adequate to address conditions adverse to quality. However, in some instances, improper prioritization or the lack of a rigorous evaluation of problems continued to challenge the licensee. The team also concluded that a safety conscious work environment exists at Callaway, however some negative comments received during interviews indicated that efforts to improve in this area have not been completely effective.
Inspection Report# : 2004006*(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 : December 29, 2004