Comanche Peak 2
2Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 18, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate External Flooding Instructions
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control” for the failure to have adequate external flooding instructions. The licensee’s technical requirements manual included circulating water system stop gates as a flood protection measure. This statement was not accurate for a reservoir level greater than 778 feet. As a result, the licensee failed to provide specific instructions for flood protection during circulating water system maintenance with wood barriers in place. In addition, during service water travelling screen replacement, the licensee failed to provide adequate guidance to mitigate debris from entering the service water pump suctions if water level were to increase above 778 feet. As a result, the service water system was susceptible to fouling during a flooding event. The licensee entered the finding into the corrective action program as Condition Report CR-2011-004062.
The licensee’s failure to have adequate external flooding instructions that resulted in safety related equipment being vulnerable to external flooding was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external factors attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using NRC Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to involve equipment designed to mitigate an external flood and could result in a plant trip or affect more than one train of safety equipment and required a Phase 3 analysis. A senior reactor analyst determined that the finding was of very low safety significance because the calculated bounding delta core damage frequency was 1.9E-8. The finding has a human performance crosscutting aspect associated with decision-making because the licensee failed to demonstrate that nuclear safety is an overriding priority when faced with unexpected plant conditions.
Inspection Report# : 2011003 *(pdf)*

Significance: G Jun 18, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow the Requirements of the Boric Acid Program
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to follow procedure STA-737, “Boric Acid Corrosion Detection and Evaluation,” Revision 5. Specifically, the licensee did not track all boric acid leaks until they were repaired or cleaned as required by Procedure STA-737. The licensee entered the finding into the corrective action program as Condition Report CR-2011-004625.

The licensee’s failure to follow the requirements of Procedure STA-737 was a performance deficiency. The finding is more than minor because, if left uncorrected, the issue would have the potential to lead to a more significant safety concern. The finding is associated with the procedure quality attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to have very low safety significance because the finding did not result in exceeding the technical specification limit for any reactor coolant system leakage and did not affect other mitigation systems resulting in a total loss of their safety function. The finding has a human performance crosscutting aspect associated with the work control component, because the licensee did not appropriately coordinate work activities by incorporating actions to address the impact of changing the schedule to repair boric acid leaks.

Inspection Report# : 2011003 *(pdf)*

Significance: G Jun 18, 2011
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Follow Maintenance Instructions Causes Inadvertent Valve Closure
The inspectors identified a finding for the failure of the licensee to provide adequate procedure instructions for refueling the alternate power generators. As a result, during a station blackout event, the alternate power generators could have ran out of fuel since the fuel tank was sized for approximately 2.6 hours of operation at full load and instructions for obtaining additional fuel did not exist. This finding does not involve enforcement action because no regulatory requirement violation was identified. The licensee entered the finding into the corrective action program as Condition Report CR 2011 005399.
The licensee's failure to provide adequate instructions for replenishing the alternate power generators fuel tank was a performance deficiency. The finding was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective, in that, the inadequate instructions did not ensure the availability, reliability, and capability of the alternate power generators to electrical power to the units during a station blackout event. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not result in an actual loss safety related equipment for greater than its technical specification allowed outage time and did not represent a loss of equipment designated as risk-significant in the maintenance rule. The finding has a human performance crosscutting aspect associated with resources, in that, the licensee failed to ensure that adequate procedures and equipment were available.

Inspection Report# : 2011003 *(pdf)*

Significance: G Dec 31, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Control of Test Equipment Causes Ground Interaction
The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1.a for the failure to establish controls for grounded test equipment. As a result, the test equipment caused a ground interaction that degraded safety-related instrumentation. The licensee entered the finding into the corrective action program as Condition Report CR 2009 008643.

The finding was more than minor because it was associated with the procedure quality attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, grounding interactions caused instrument channel deviation and unintended control rod movement. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The finding has a problem identification and resolution crosscutting aspect associated with the corrective action program because the licensee failed to thoroughly evaluate the problem and identify the cause of the issue.

Inspection Report# : 2010005 *(pdf)*

Mitigating Systems

Significance: G Jun 18, 2011
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct Degraded Emergency Diesel Generator Fuel Line

The inspectors reviewed a self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI for the licensee's failure to promptly correct a fuel leak on a diesel generator. As a result, the leak became significantly worse during diesel operation and caused the diesel generator to become inoperable. The licensee entered the finding into the corrective action program as Condition Report CR-2011-005830.

The licensee's failure to promptly correct a diesel generator fuel line leak was a performance deficiency. The finding was more than minor because it was 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 the diesel generator to provide emergency power. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined that a Phase 3 analysis was required. A senior reactor analyst determined that the finding was of very low safety significance because the calculated the delta core damage frequency was 6.0E-7. The finding has a human performance crosscutting aspect associated with work control, in that, the licensee failed to plan and coordinate work activities consistent the risk significance to the diesel generator.

Inspection Report# : 2011003 *(pdf)*

Significance: G Jun 18, 2011
Identified By: NRC
Item Type: FIN Finding
Inadequate Alternate Power Generator Procedure
The inspectors identified a finding for the failure of the licensee to provide adequate procedure instructions for refueling the alternate power generators. As a result, during a station blackout event, the alternate power generators could have ran out of fuel since the fuel tank was sized for approximately 2.6 hours of operation at full load and instructions for obtaining additional fuel did not exist. This finding does not involve enforcement action because no regulatory requirement violation was identified. The licensee entered the finding into the corrective action program as Condition Report CR 2011 005399.
The licensee's failure to provide adequate instructions for replenishing the alternate power generators fuel tank was a performance deficiency. The finding was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective, in that, the inadequate instructions did not ensure the availability, reliability, and capability of the alternate power generators to electrical power to the units during a station blackout event. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not result in an actual loss safety related equipment for greater than its technical specification allowed outage time and did not represent a loss of equipment designated as risk-significant in the maintenance rule. The finding has a human performance crosscutting aspect associated with resources, in that, the licensee failed to ensure that adequate procedures and equipment were available.

Inspection Report# : 2011003 *(pdf)*

Significance: G May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Effective Corrective Actions for a Condition Adverse to Fire Protection
The team identified a noncited violation of License Condition 2.G for the failure to implement and maintain in effect all provisions of the approved fire protection program. Specifically, the team identified two examples where the licensee failed to implement effective corrective actions to ensure that time-critical manual actions would be accomplished within analyzed times for alternative shutdown scenarios. The first example involved the failure to close a spuriously opened pressurizer power-operated relief valve within the time allowed by the postfire safe shutdown analysis. The second example involved the failure to restore station service water cooling before damage could occur to the credited emergency diesel generator in the event of a control room fire with a loss of offsite power. The licensee entered this issue into their corrective action program as Condition Reports CR-2011-001647, CR-2011-001742 and CR-2011-001836. In response to this issue, the licensee re-ordered the procedure steps to isolate the power-operated relief valves and ensure the standby service water pump was running sooner. The licensee planned to perform a validation of the revised procedures.

Failure to implement effective corrective actions to ensure that time-critical manual actions would be accomplished within analyzed times for alternative shutdown scenarios is a performance deficiency. This performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Mitigating Systems cornerstone 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 significance of this finding could not be evaluated using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because the performance deficiency involved a control room fire that led to control room abandonment. A senior reactor analyst performed a Phase 3 evaluation bounding analysis that concluded this finding had very low safety significance (Green) because the number of electrical cabinets in the control room and cable spreading room that contained circuits that could have a fire that could affect the power-operated relief valves or station service water system was a small fraction of the total. This performance deficiency had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not take appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance.
Inspection Report# : 2011007 *(pdf)*

Significance:  May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Mitigate or Correct Potential Single Spurious Fire Damage Scenario
The team identified a noncited violation of License Condition 2.G for failure to implement and maintain in effect all provisions of the approved fire protection program. Specifically, the licensee failed to recognize that electrical cables for the pressurizer power-operated relief valves and associated block valves were installed in many of the same cable trays, leaving the plant susceptible to fire damage that could spuriously open the power-operated relief valve and prevent the ability to shut the block valve. This scenario could challenge operators by creating a loss of coolant during a plant fire. The licensee entered this issue into their corrective action program as Condition Reports CR-011-001319, CR-2011-001807, CR-2011-001808 and CR-2011-002430. As a compensatory measure, the licensee revised attachment 17 to Procedure ABN-901, "Fire Protection System Alarms or Malfunctions," Revision 9, to close the affected pressurizer block valves in the event of a fire in the Auxiliary or Safeguards buildings in order to mitigate potential circuit interactions that could spuriously open a power-operated relief valve.

Failure to identify and mitigate or correct an existing plant configuration that was susceptible to single spurious failures while performing expert panel reviews of fire damage scenarios that could prevent safely shutting down the plant in the event of a fire is a performance deficiency. This performance deficiency was more than minor because it is associated with the protection against external events (fire) attribute of the Mitigating Systems cornerstone 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 team used Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because the performance deficiency affected fire protection defense-in-depth strategies involving post-fire safe shutdown. Because the Phase 1 screening criteria were not met, the analysis continued to Phase 2. Because the finding did not screen as Green during the Phase 2 analysis, a senior reactor analyst performed a Phase 3 analysis. Using information from the Phase 2 worksheets and discussions with the licensee PRA staff, the senior reactor analyst's Phase 3 analysis calculated the total change in core damage frequency to be 3.2E-7/yr (Green), based on the proximity of fire sources available to damage these circuits. This finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not identify the issues completely, accurately, and in a timely manner commensurate with their safety significance while conducting expert panel reviews of this and other scenarios in 2009.

Inspection Report# : 2011007 *(pdf)*

Significance:  May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure Emergency Lights in Safe Shutdown Areas had an 8-Hour Capacity

The team identified a noncited violation of License Condition 2.G for failure to implement and maintain in effect all provisions of the approved fire protection program. Specifically, the licensee failed to establish a maintenance and/or test program that demonstrated that emergency lighting had an 8-hour capacity in areas required for safe shutdown. When inspectors questioned the licensee's practice of replacing the emergency light batteries without ever testing to confirm that the replacement interval was appropriate to ensure an 8-hour capacity, the licensee conducted tests that showed that 22 percent of the batteries on a 3-year replacement interval failed in less than 8 hours. The licensee entered this issue into their corrective action program as Condition Report CR-2011-001821. The licensee created action items to CR-2011-001821 for additional testing on a broader sample of emergency lights to aid in determining the correct replacement interval to ensure operability, and shortened the 3-year replacement interval for lights which failed to meet operability requirements as a result of testing to a more conservative 2-year replacement interval which had no demonstrated testing failures.

The failure to establish a maintenance and/or test program that demonstrated operability for 8-hour emergency lighting required for operator manual actions at safe shutdown equipment is a performance deficiency. The performance deficiency was more than minor because it is associated with the protection against external events (fire) attribute of the Mitigating Systems cornerstone 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. Specifically, the failure of the emergency lights to last 8 hours could adversely affect the ability of operators to perform the manual actions required to support safe shutdown in the event of a fire. The significance of this finding was evaluated using Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because the performance deficiency affected fire protection defense-in-depth strategies involving post-fire safe shutdown systems. Using Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," the finding was assigned a low degradation rating because the finding minimally impacted the performance and reliability of the fire protection program element. The team also noted that operators were required to obtain and carry flashlights. Therefore, the finding screened as having very low safety significance (Green). This finding did not have a crosscutting aspect because it was not indicative of current licensee performance, in that the replacement program had been used for longer than 3 years.

Inspection Report# : 2011007 *(pdf)*

Significance: G Mar 19, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Emergency Boration Flow Path Isolated
The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1.a for the failure to implement a boric acid system procedure. As a result, an emergency boration flow path was isolated. The licensee entered the finding into the corrective action program as Condition Report CR-2011-000590.
The finding was more than minor because it was associated with the human performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, an emergency boration flow path was inadvertently isolated. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to represent an actual loss of safety function of non technical specification equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours. Therefore, the finding was determined to require an Appendix A significance determination process phase 2 analysis. The inspectors determined that, for evaluation purposes, a total failure of emergency boration capability bounded the event. The inspectors evaluated the finding using the phase 2 pre-solved table for "operator fails to initiate emergency boration." Since the flow path was isolated from January 17 to January 18, 2011, the inspectors used the less than 3 days section of the table for evaluating the finding and determined the finding was of very low safety significance. The finding has a human performance crosscutting aspect associated with work practices because licensee personnel proceeded in the face of unexpected circumstances and did not consult supervision.

Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 19, 2011

Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Fire Drill Evaluation
The inspectors identified a noncited violation of Technical Specification 5.4.1.d for the failure of the licensee to identify a critical item failure during an unannounced fire drill. As a result, the licensee evaluated the control room operators' performance during a fire drill as being successful when the actual performance resulted in a drill failure. The licensee entered the finding into the corrective action program as Condition Report CR-2011-001803.

The finding was more than minor because the failure of the licensee to identify fire drill performance deficiencies, if left uncorrected, would have the potential to lead to a more significant safety concern. Findings associated with operator performance during dire drills are not evaluated using NRC Manual Chapter 0609, Attachment F, "Fire Protection Significance Determination Process," and require NRC management review using Appendix M, "Significance Determination Process Using Qualitative Criteria." Regional management concluded that the finding was of very low safety significance because it reflected personnel performance during a training drill rather that during an actual fire. The finding has a human performance crosscutting aspect associated with resources because the licensee failed to ensure that the procedure, drill package F11-01, was complete to adequately assure nuclear safety.

Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 19, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct Safety Injection Reset Malfunction
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action" for the failure of the licensee to promptly identify and correct a safety injection reset malfunction caused by a design error. As a result, this malfunction could have delayed the termination of an inadvertent safety injection, a time critical action for avoiding the reactor coolant system reaching water solid conditions. The licensee entered the finding into the corrective action program as Condition Report CR-2011-003476.

The finding was more than minor because it was associated with the design control attribute of the initiating events cornerstone and adversely affected the cornerstone objective, in that, the finding increased the likelihood of the reactor coolant system reaching water solid conditions during an inadvertent safety injection. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to require a phase 2 analysis because, as a potential loss of coolant accident initiator, the worst case degradation of ineffective operator actions would result in exceeding reactor coolant system leakage limits. The inspectors determined that a phase 2 analysis was not applicable to the performance deficiency. A senior reactor analyst reviewed the licensee's risk estimate and determined that no further analysis was needed to conclude that the conditional risk of an inadvertent safety injection was very low. The licensee's analysis did not consider the risk related to a steam line break inside containment where the recovery would be complicated by multiple valve manipulations needed to restore reactor coolant pump thermal barrier cooling before securing the charging pumps. However, the low frequency of a sufficiently-sized steam line break inside containment combined with the low probability, two percent, that the safety injection could not be reset reduced the scenario of concern to a frequency of less than 1.0E-6/yr. Therefore, the analyst concluded that the performance deficiency was of very low safety significance. The finding has a problem identification and resolution crosscutting aspect associated with the corrective action program because the licensee failed to thoroughly evaluate the problem.

Inspection Report# : 2011002 *(pdf)*

Significance: G Nov 04, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Analysis of Emergency Diesel Generator Frequency
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, Design Control, which states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, as of June 18, 2010, the

licensee failed to properly translate technical specification allowable diesel generator frequency range to design documents. This finding was entered into the licensee's corrective action program as Condition Report CR-2010-005563.

The team determined that the failure to analyze the emergency diesel generators for operation over the entire range of allowed frequency was a performance deficiency. This finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of safety systems that respond to initiating events to prevent undesirable consequences. The team 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 (Green) because it was a design or qualification issue confirmed not to result in a loss of operability or functionality, it did not result in the loss of a system safety function, it did not represent the loss of a single train for greater than technical specification allowed outage time, it did not represent a loss of one or more non-technical specification risk significant equipment for greater than 24 hours, and it did not screen as potentially risk significant due to seismic, flooding, or severe weather. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee did not effectively incorporate operating experience into the preventive maintenance program for the emergency diesel generators. Specifically, the licensee failed to incorporate information provided in Information Notice 2008-02, which could have affected the capability of equipment such as safety related motor operated pumps to perform their safety function under the most limiting conditions.

Inspection Report# : 2010006 *(pdf)*

Significance: G Nov 04, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Evaluation of Hydrogen Generation for Safety-Related and NonSafety-Related Batteries
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, Design Control which states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, as of June 18, 2010, the licensee failed to perform an adequate hydrogen evolution calculation, for the safety-related and nonsafety-related batteries, using the most limiting expected condition of forcing maximum current into a fully charged battery which led to a ventilation system design that did not limit hydrogen accumulation to less than two percent of the total volume of the battery areas during all conditions. This finding was entered into the licensee's corrective action program as Condition Reports CR 2010 005941, CR 2010 005941, and CR-2010-006561.

The team determined that the failure to adequately perform the hydrogen evolution calculation for the safety-related battery, using the most limiting condition, was a performance deficiency. This finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone attribute of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Phase 1 screening in accordance with Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green) because it was a design or qualification issue confirmed not to result in a loss of operability or functionality, it did not result in the loss of a system safety function, it did not represent the loss of a single train for greater than technical specification allowed outage time, it did not represent a loss of one or more non-technical specification risk significant equipment for greater than 24 hours, and it did not screen as potentially risk significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2010006 *(pdf)*

Significance: SL-IV Nov 04, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients
The team identified a noncited violation of 10 CFR 50.9, Completeness and Accuracy of Information, which states, in

part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects. Specifically, on June 20, 2007, the licensee asserted in their response to Generic Letter 2007-01, “Inaccessible or Underground Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients,” Request 2, that Comanche Peak “periodically performs visual inspection for corrosion and degradation of cable tray supports and a preventive maintenance program for inspection/removal of water from manholes.” The team determined the licensee had no preventive maintenance program or procedures in place to govern the inspection or preventive maintenance activities described in their response, and there was no evidence that these manholes, raceways, and supports had ever been inspected prior to November 2009. This finding was entered into the licensee’s corrective action program as Condition Report CR-2010-005784.

The team determined that the failure to provide accurate information in the licensee’s response to Generic Letter 2007-01 was a performance deficiency. The finding is more than minor because the information was material to the NRC’s decision-making processes. Specifically, the information requested by Generic Letter 2007-01 was to enable NRC staff to determine whether the applicable regulatory requirements identified in the generic letter (10 CFR Part 50, Appendix A, General Design Criteria 4, 17, and 18; 10 CFR 50.65(a)(1); 10 CFR Part 50, Appendix B, Criterion XI), were being met with regard to the operational readiness of critical systems that could cause a plant transient or mitigate accidents, and to obtain further information on cable failures.

Inspection Report# : 2010006 *(pdf)*

Significance: G Nov 04, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Design Features for Precluding or Minimizing Long- Term Accumulation of Water in Underground Conduits Contaning Medium Voltage Safety Related Cables
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, Design Control which states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, as of June 18, 2010, the licensee failed to perform an adequate hydrogen evolution calculation, for the safety-related and nonsafety-related batteries, using the most limiting expected condition of forcing maximum current into a fully charged battery which led to a ventilation system design that did not limit hydrogen accumulation to less than two percent of the total volume of the battery areas during all conditions. This finding was entered into the licensee’s corrective action program as Condition Reports CR 2010 005941, CR 2010 005941, and CR-2010-006561.

The team determined that the failure to adequately perform the hydrogen evolution calculation for the safety-related battery, using the most limiting condition, was a performance deficiency. This finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone attribute of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Phase 1 screening in accordance with Manual Chapter 0609, Attachment 4, “Phase 1 – Initial Screening and Characterization of Findings,” and determined that the finding was of very low safety significance (Green) because it was a design or qualification issue confirmed not to result in a loss of operability or functionality, it did not result in the loss of a system safety function, it did not represent the loss of a single train for greater than technical specification allowed outage time, it did not represent a loss of one or more non-technical specification risk significant equipment for greater than 24 hours, and it did not screen as potentially risk significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2010006 *(pdf)*

Significance: G Sep 18, 2010
Identified By: NRC
Item Type: FIN Finding
"Failure to Correctly Evaluate Diesel Generator Past Operability"
The inspectors identified a finding for the failure of the licensee to adequately evaluate the past operability of the Unit 2 Train B diesel generator when its governor functioned in a droop mode during isochronous operations. As a result,

the licensee's evaluation incorrectly concluded that the diesel generator was always operable. The licensee entered the finding into the corrective action program as Condition Report CR-2010-008760.

The finding was more than minor because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern in that the licensee could have used the inadequate operability evaluation to incorrectly declare a diesel generator operable with a similar performance issue in the future. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not result in the loss of safety function for the diesel generator. The finding has a human performance crosscutting aspect associated with decision-making, in that, licensee personnel failed to use conservative assumptions.

Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 18, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
"Failure to Promptly Identify and Correct a Diesel Generator Frequency Degradation"
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action" for the failure of the licensee to promptly identify and correct a diesel generator operating in a droop condition instead of the isochronous mode during emergency conditions. As a result, the ability of the diesel generator to provide power to mitigating equipment at the design frequency was degraded for approximately three years. The licensee entered the finding into the corrective action program as Condition Report CR 2010 003305.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective, in that, the capability of the diesel generator to provide power to mitigating equipment was adversely affected by operating at a frequency lower than 60 hertz. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not result in the loss of safety function for the mitigating equipment supported by the diesel. The finding has a human performance crosscutting aspect associated with work practices, in that, licensee personnel proceeded in the face of unexpected circumstances during diesel generator surveillances when frequency was abnormal.

Inspection Report# : 2010004 *(pdf)*

Barrier Integrity

Significance: G Jun 18, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop Adequate Guidance for Extreme Damage Mitigation Procedures
The inspectors identified a noncited violation of 10 CFR 50.54(hh)(2) for the licensee's failure to develop adequate guidance to restore core and spent fuel cooling capabilities for a postulated loss of large areas of the plant. Specifically, the licensee failed to ensure suction hose size derived from an engineering report was translated into procedures, failed to provide adequate procedure guidance for use of a fire truck to draw water from the reservoir, and failed to stage hoses in the location specified by procedure. The licensee entered the finding into the corrective action program as Condition Report CR 2011 005830.
The licensee's failure to develop adequate guidance to restore core and spent fuel cooling capabilities for a postulated loss of large areas of the plant was a performance deficiency. The finding was more than minor because it was associated with the procedure quality attribute of the barrier integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding and containment) protect the public from radionuclide releases caused by accidents or events. Using NRC Manual Chapter 0609, Appendix L, "B.5.b Significance Determination Process," the finding was determined to be of very low safety significance because the finding did not affect both the recoverability and availability of an individual mitigating

strategy. The finding has a human performance crosscutting aspect associated with resources, in that, the licensee failed to ensure adequate facilities, equipment, and trained personnel were available to ensure nuclear safety is maintained.

Inspection Report# : 2011003 *(pdf)*

Significance: G Sep 18, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
"Failure to Consider Temperature Effects on Air Accumulator Overpressure Protection"
The inspectors identified a noncited violation of 10 CFR 50 Appendix B, Criterion III, “Design Control” for the failure to consider the temperature effect on the pressurization of safety-related air accumulators for containment isolation valves in the main steam line penetration room. As a result, the accumulators could exceed their design pressure during a steam line break. The licensee entered the finding into the corrective action program as Condition Report CR-2010-006349.

The finding was more than minor because it was associated with the design control attribute of the barrier integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical barriers protect the public from radionuclide releases caused by events. Using NRC Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to be of very low safety significance because the finding did not result in an actual open pathway in the physical integrity of reactor containment. The finding did not have a crosscutting aspect because the performance deficiency was not representative of current licensee performance

Inspection Report# : 2010004 *(pdf)*

Emergency Preparedness

Significance: G Jun 18, 2011
Identified By: NRC
Item Type: FIN Finding
Failure to Update Severe Accident Management Guidelines
The inspectors identified a finding for the licensee’s failure to follow procedure guidance and update the severe accident management guidelines. As a result, as of May 16, 2011, the severe accident management guidelines did not incorporate the latest owners’ group guidance, plant hardware changes, and incorporation of extreme damage mitigation guideline actions. This finding does not involve enforcement action because no regulatory requirement violation was identified. The licensee entered the finding into the corrective action program as Condition Report CR 2011-005982.
The licensee’s failure to follow procedure guidance and update the severe accident management guidelines was a performance deficiency. The finding was more than minor because if left uncorrected, the finding would have a potential to lead to a more significant safety concern. Using NRC Manual Chapter 0609, Appendix B, “Emergency Preparedness Significance Determination Process,” the finding was determined to be of very low safety significance because the finding was not associated with an emergency preparedness planning standard. The finding has a human performance crosscutting aspect associated with resources, in that, personnel failed to follow expectations regarding procedural compliance and closed a condition report without addressing the deficiencies identified in the condition report.

Inspection Report# : 2011003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : October 14, 2011