Diablo Canyon 1
1Q/2011 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 27, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Design Control for the Preferred Offsite Power System
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” after Pacific Gas and Electric failed to ensure that the preferred offsite power system design basis was correctly translated into electrical dynamic loading Calculations 357A-DC, “Units 1 and 2 Load Flow, Short Circuit and Motor Starting Analysis,” Revision 12 and 359-DC, “Offsite Power Dynamic Analysis,” Revision 8. The licensee did not include the limiting load flow cases representing the largest total onsite demand for both units as required by the plant design basis. On July 7, 2010, the NRC clarified that the Diablo Canyon current licensing basis required the preferred offsite power system to have adequate capacity and capability to supply the most limiting loading requirements, including a dual unit trip. The licensee subsequently entered the condition into the corrective action program as Notification 50289590 and revised the station dynamic loading analysis to reflect the increased onsite power demand.

The inspectors concluded that the failure to ensure that the dynamic loading analysis included all design basis requirements was a performance deficiency. This performance deficiency is more than minor because the finding was associated with the Mitigating Systems Cornerstone initial design control attribute and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Because the inspectors were unable to conclude that the preferred offsite power system had not been inoperable for greater than the allowed Technical Specification outage time, a senior reactor analyst performed a bounding Phase 3 analysis. The Phase 3 analysis demonstrated that the subject finding was of very low safety significance (Green), because of the small increase of probability of a loss of offsite power that the finding represented. 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 thoroughly evaluate the current licensing basis requirements to ensure that resolutions addressed causes and extent of conditions, as necessary.
Inspection Report# : 2011002 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain a Fire Barrier
The inspectors identified a noncited violation of Diablo Canyon Facility Operating License Condition 2.C (5), “Fire Protection,” after Pacific Gas and Electric failed to maintain the integrity of Door 155 in the rated condition. On December 9, 2010, the inspectors identified that the fire door was inoperable. Equipment Control Guideline 18.7, “Fire Rated Assemblies,” required the licensee to maintain Door 155 in a configuration that would provide at least a 1½-hour rated fire barrier. The inspectors previously identified that Door 155 was degraded as a fire barrier in 2009. The licensee entered the violation into the corrective action program as Notification 50367381 and took immediate corrective actions to restore the fire barrier to the rated condition and to implement weekly plant fire door walkdowns.

The inspectors concluded that the finding was more than minor because the degraded fire barrier affected the

Mitigating Systems Cornerstone external factors attribute and objective to prevent undesirable consequences due to fire. The inspectors determined that the finding was within the fire confinement category and that the fire barrier was moderately degraded. The inspectors concluded that the finding was of very low safety significance (Green) because there was a non-degraded automatic full area water-based suppression system in the exposed fire area. 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 take effective corrective actions to following the previous occurrence of the violation [P.1(d)].

Inspection Report# : 2010005 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Determinations
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after Pacific Gas and Electric failed to adequately evaluate two nonconforming conditions for operability as required by Procedure OM7.ID12, "Operability Determination." On October 15, 2010, the inspectors identified a less than adequate technical evaluation supporting Prompt Operability Assessment 50350918, "Unit 2 - Insulation in Bio-Wall Penetration." Engineering personnel failed to adequately evaluate the extent of condition after technicians identified about 632 pounds of Temp-Mat and 60 pounds of Min-K fibrous insulation in the Unit 1 reactor coolant loop biological shield wall penetrations. This fibrous material could have potentially been transported and plugged the emergency core cooling containment sump screen. The licensee performed the prompt operability assessment for Unit 2, which was operating at the time. The inspectors concluded that the engineering personnel inappropriately applied the leak-before-break methodology to exclude about 87 percent of this material from the extent of condition review in the prompt operability assessment.
The second example involved Prompt Operability Assessment Notification 50355265, "RHR Sump Margin," which was completed by the licensee on October 23, 2010. In this example, engineering personnel failed to identify and demonstrate that the specified safety function of the refueling water storage tank could be maintained as required by the plant operability procedure. The inspectors identified that the post accident flow path from the reactor cavity to the containment sump was blocked by a large shield plug. This blockage
reduced the amount of post accident inventory available at the containment sump at the time of transition from injection to recirculation mode of emergency core cooling operation. Engineering personnel failed to demonstrate that the safety function to ensure full sump submergence was maintained with the blocked flow path. Full submergence of the sump was used by the NRC as the basis for approval of Technical Specification 3.5.4, "Refueling Water Storage Tank," inventory requirements. The licensee entered the violation into the corrective action program as Notification 50369117 and revised the prompt operability assessments using assumptions consistent with the current licensing bases.

The inspectors concluded that the performance deficiency was more than minor because the finding affected the Mitigating Systems Cornerstone initial design control attribute and objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors concluded that the finding was of very low safety significance (Green) because the finding was confirmed not to result in the loss of operability or functionality. This finding had a crosscutting aspect in the area of human performance associated with the decision making component because Pacific Gas and Electric did not use conservative assumptions in decisions to demonstrate component operability in either example [H.1(b)].
Inspection Report# : 2010005 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Less than Adequate Containment Recirculation Sump Design Control
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," after Pacific Gas and Electric failed to ensure Calculation STA-255, "Minimum Required Refueling Water Storage Tank Level for GE Sumps," Revision 2, demonstrated adequate available refueling water storage tank inventory. On October 19, 2010, the inspectors identified that emergency core cooling post accident flow path from the reactor

cavity to the containment sumps was blocked by a large steel plug on Unit 1. The accident analysis assumed this 35 square foot path was open to allow coolant from a pipe break inside the biological shield to communicate with containment sumps during the recirculation mode of emergency core cooling. The licensee credited the inventory from the reactor cavity when determining the minimum required refueling water storage tank volume in Calculation STA-255. Pacific Gas and Electric used Calculation STA-255 as the basis for determining the minimum required refueling water storage tank volume specified by Technical Specification 3.5.4, “Refueling Water Storage Tank.” The inspectors identified that the recirculation flow path was also blocked on Unit 2. The inspectors concluded that the most significant contributor to the violation was inaccurate plant drawings used by plant engineers during the performance of Calculation STA-255. The licensee’s corrective actions included completion of a prompt operability assessment justifying continued operation of Unit 2 and replacement of the shield plug with a movable platform on Unit 1 prior to plant restart.

The inspectors concluded that the performance deficiency was more than minor because the finding affected the Mitigating Systems Cornerstone plant modification design control attribute and objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors concluded that the finding was of very low safety significance (Green) because the performance deficiency involved a design deficiency confirmed not to result in the loss of operability or functionality. This finding had a crosscutting aspect in the area of human performance associated with the resources component because Pacific Gas and Electric failed to use complete, accurate and up-to-date drawing for Calculation STA 255 [H.2(c)].
Inspection Report# : 2010005 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Emergency Diesel Generator Surveillance Testing
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” after Pacific Gas and Electric failed to develop and implement an adequate testing program for the emergency diesel generators that met design requirements and recommendations. Specifically, in December 2008, the inspectors identified that the diesel generator loading calculations were inadequate to demonstrate that the design bases were met. Pacific Gas and Electric updated the load calculations, but failed to make the necessary revisions to Surveillance Test Procedure STP M-9D1, “Diesel Generator Full Load Rejection Test.” As a result, Pacific Gas and Electric failed to test several of the emergency diesel generators at the complete load as required by Regulatory Guide 1.108, Revision 1, which is part of the current licensing bases. The licensee entered this into the corrective action program as Notification 50368801, determined there was no loss of safety function for the affected components, and applied the provisions of Surveillance Requirement 3.0.3 for a missed surveillance test. The inspectors concluded the most significant contributor to the finding was less than adequate diesel generator loading evaluations to support corrective action from previous violations associated with the emergency diesel generator testing.

The inspectors concluded that the performance deficiency was more than minor because the finding affected the equipment control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance (Green) because it did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time. This finding had a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program component because the licensee failed to perform an adequate evaluation of the nonconservative surveillance test such that the resolution addressed the fundamental basis for the surveillance [P.1 (c)].
Inspection Report# : 2010005 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Quality Verification Audits
The inspectors identified a noncited violation of 10CFR Appendix B, Criterion XVIII, “Audits”, which required that a comprehensive system of planned and periodic audits be carried out to verify compliance with all aspects of the

quality assurance program and to determine the effectiveness of the program as well as follow up action, including re-audit of deficient areas, where indicated. Contrary to this requirement, Pacific Gas and Electric failed to ensure that a comprehensive system of planned and periodic audits were carried out to verify compliance with all aspects of the quality assurance program, determine the effectiveness of the program, and perform necessary follow up actions. Specifically, the 2008 Quality Verification audit of the corrective action program failed to adequately address an adverse trend in the problem evaluation process documented in NRC Inspection report 2008005, which identified eleven examples of an adverse trend in problem evaluation. The licensee entered this into their corrective action program as Notification 50365083 and determined
there was no loss of safety function for the affected components. The inspectors concluded the most significant contributor to the finding was a less than adequate evaluation of the corrective action trending program.

This finding was more than minor because it was associated with the equipment control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the performance deficiency was of very low safety significance (Green) it was a deficiency confirmed not to result in the loss of operability or functionality. This finding had a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to coordinate and communicate the results from assessments to affected personnel, and track the corrective actions to address issues commensurate with their significance [P.3(c)].
Inspection Report# : 2010005 *(pdf)*

Significance: G Sep 25, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify a Degraded Fire Barrier
The inspectors identified a noncited violation of the Diablo Canyon Facility Operating License Condition (5), “Fire Protection,” after Pacific Gas and Electric failed to maintain the integrity of a fire door in the rated configuration. On August 19, 2010, the inspectors identified that Fire Door 223 was inoperable. Fire Door 223 was required to provide a 3-hour rated barrier between Fire Areas 5-A-4 and 5-B-4. A fire in either of these areas could have prevented operation of the auxiliary feedwater, auxiliary saltwater, or component cooling water pumps or steam generator level control from the remote shutdown panel. Equipment Control Guideline 18.7, “Fire Rated Assemblies,” required the licensee to either maintain Fire Door 223 operable or implement compensatory actions within one hour. The inspectors concluded the most significant contributor to the finding was that licensee personnel did not identify and enter the degraded fire door into the Corrective Action Program. The licensee entered the performance deficiency associated with this finding into the corrective action program as Notification 50336901 and completed repairs to the door on August 23, 2010.

The inspectors concluded that the performance deficiency was more than minor because the degraded fire barrier affected the mitigating systems cornerstone external factors attribute objective to prevent undesirable consequences due to fire. The inspectors determined that the inoperable door was a fire confinement category finding and that the fire barrier was moderately degraded because the door would not perform the rated fire barrier function. The inspectors concluded the finding was of very low safety significance because the degraded barrier would have provided a minimum of 20 minutes fire endurance protection and ignition sources and combustible materials were positioned that had a fire spread to secondary combustibles, the degraded barrier would not have been subject to direct flame impingement. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not implement a low threshold for identifying and entering issues into the Corrective Action Program [P.1(a)].
Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 25, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Risk Assessment during Planned Maintenance Activities
The inspectors identified a noncited violation of 10 CFR 50.65 after Pacific Gas and Electric failed to perform a risk assessment after plant conditions had changed. On July 13, 2010, Pacific Gas and Electric identified that station

personnel failed to complete Technical Specification Surveillance Requirement 3.3.4.2, “Remote Shutdown System,” within the specified frequency for both Units. As provided by Surveillance Requirement 3.0.3, the licensee performed a risk evaluation to extend the required surveillance completion time beyond twenty-four hours. The licensee initiated the missed surveillance tests and identified results were outside acceptance criteria. On July 26, 2010, Operations personnel declared several remote shutdown system functions inoperable because reasonable expectation no longer existed that remote shutdown system could perform its safety function. Pacific Gas and Electric failed to reassess the effect on plant risk resulting from inoperable remote shutdown system functions before continuing with scheduled maintenance. A subsequent risk assessment concluded that plant risk was in a higher risk category due to planned maintenance activities conducted during this time frame. The licensee entered the performance deficiency into the corrective action program as Notification 50331841.

The inspectors determined that the performance deficiency is more than minor because the performance deficiency affected the Mitigating Systems Cornerstone attribute of human performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Also, the finding is similar to Example 7.e in Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” because the overall elevated plant risk would put the plant into a higher licensee-established risk category. The inspectors concluded that the finding is of very low safety significance (Green) based on an actual incremental core damage probability deficit of less than 1x10-6 and an evaluation using Flowchart 1 of Appendix K of Inspection Manual Chapter 0609, “Maintenance Risk Assessment and Risk Management Significance Determination Process.” This finding had a crosscutting aspect in the area of human performance associated with the work practices component because the licensee failed to follow its maintenance risk procedure and reassess plant risk due to changing plant conditions [H.4(b)].
Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 25, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Determination
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after Pacific Gas and Electric failed to promptly evaluate two nonconforming conditions for operability as required by Procedure OM7.ID12, “Operability Determination.” The first example involved the failure of engineering personnel to promptly notify plant operations of the failure of the emergency diesel generators to meet licensing and design frequency and voltage recovery requirements. This issue was identified by the NRC on May 11, 2010, but not evaluated for the effect on diesel operability until September 9, 2010. The second example also involved the failure of engineering personnel to promptly notify plant operations to evaluate a nonconforming condition associated with a common cross-tie line that connected both auxiliary saltwater trains. This issue was identified by the NRC on July 22, 2010, but not evaluated for the effect on auxiliary saltwater operability until August 4, 2010. In both examples, engineering personnel failed to follow Procedure OM7.ID12, “Operability Determination,” Section 5.1, which required any individual identifying a degraded or nonconforming condition that potentially impacts operability of a system, structure or component to ensure that operations shift management is informed. The licensee entered the performance deficiency associated with this finding into the corrective action program as Notifications 50340417 and 50335847.

The inspectors concluded that the performance deficiency is more than minor because the Mitigating Systems Cornerstone initial design control attribute and objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences were affected. The finding was of very low safety significance (Green) because neither of the two examples was subsequently determined to result in the loss of operability or functionality. This finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because Pacific Gas and Electric did not thoroughly evaluate the nonconforming conditions for operability [P.1(c)].
Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 25, 2010
Identified By: NRC
Item Type: NCV NonCited Violation

Inadequate Design Control for the AuxiliarySaltwater System
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” involving the failure to maintain adequate design control measures associated with the auxiliary saltwater system. The inspectors identified that the auxiliary saltwater system design did not comply with the plant design bases as described the Final Safety Analysis Report Update. Specifically, an auxiliary saltwater vent line did not meet the requirements established of General Design Criteria 1, “Quality Standards and Records,” and Regulatory Guide 1.26, “Quality Group Classifications and Standards for Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants.” The licensee entered the performance deficiency into the corrective action program as Notification 50328942.

This performance deficiency is greater than minor because the design control attribute of the mitigating systems cornerstone and the cornerstone’s objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences were affected. Using the Significance Determination Process (SDP) Phase 1 Screening Worksheet for the Mitigating Systems Cornerstone, the inspectors concluded the finding was of very low significance (Green) because it was a design deficiency confirmed not to result in the loss of operability or functionality. The inspectors concluded that the finding does not have a crosscutting aspect since the performance deficiency is not reflective of current plant performance.
Inspection Report# : 2010004 *(pdf)*

Significance: G Jul 27, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Design Control for the Emergency Diesel Generator
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” involving the failure to maintain adequate design control measures associated with the emergency diesel generating air system. Specifically, failure of non-seismically qualified air compressor unloader sensing lines during a seismic event could impact the safety function of the emergency diesel generators. Subsequent analysis of the nonconforming condition performed by the licensee determined the piping would not fail during a postulated seismic event. The licensee entered this issue into the corrective action program as Notifications 50307496, 50307497, 50307504, 50307670, 50308204, and 50308824.

The finding was more than minor because it affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Significance Determination Process (SDP) Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones the finding was potentially risk significant for a seismic initiating event requiring a Phase 3 analysis. The analyst estimated the nonrecovery probabilities for operators failing to isolate air between the receiver and the compressor prior to air pressure depletion, and operators failing to manually open fuel transfer valves to makeup to the diesel day tank. The final quantitative result was calculated to be 1.06 x 10-6. However, using a qualitative evaluation of the bounding assumptions, the analyst determined that the best available information indicated that the finding was of very low risk significance (Green). The team determined that the finding was reflective of current plant performance because it had been recently identified during the license renewal inspection and had a human performance crosscutting aspect related to decision making because the licensee did not use conservative assumptions when evaluating this nonconforming condition in previous evaluations.

Inspection Report# : 2010006 *(pdf)*

Significance: G Jul 27, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Proficiency of Operators to Meet the Time Critical Operator Actions
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” involving the failure to ensure that operators are able to implement specified actions in response to operational events and accidents. Specifically, operators could not achieve actions within the analysis time estimates for the cold leg recirculation phase of a loss of coolant accident response and the steam generator tube rupture response as described in the licensee’s safety analysis report.

The finding is more than minor because it affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding represented a potential loss of a safety function requiring a Phase 2 analysis. Because the probability of human error is not effectively addressed by a Phase 2 analysis, a Phase 3 analysis was performed. The senior reactor analyst reviewed the actual timing of the walkdowns associated with the steam generator tube rupture time critical actions. The analyst determined that, while the licensee failed to meet the specific cooldown timing documented in the Final Safety Analysis Report, the total time to start cooling the reactor was well within the total critical timing of the event. The analyst found no impact on safety in delaying the cooldown of the reactor for one minute given that the other time critical actions were performed more quickly than required. Therefore, the analyst determined that this portion of the finding was of very low safety significance because it does not represent an actual loss of safety function (Green). The senior reactor analyst reviewed the issue related to the assumed action times associated with switching over to containment sump recirculation lineup for their emergency core cooling system pumps during a large break loss of coolant accident. The analyst noted that this time critical action was only required if a large-break loss of coolant accident occurred simultaneously with the failure of an residual heat removal pump to stop automatically, requiring local isolation of the pump. Given that the frequency of the initial conditions for the time critical action are below the Green/White threshold, the change in core damage frequency associated with this finding must be of very low safety significance (Green). The team determined that the finding was reflective of current plant performance because the licensee participated in a recent industry-wide study on time critical operator actions, but did not implement any of the group's recommendations. The finding had a crosscutting aspect in the area of human performance, decision making, because the licensee did not use conservative assumptions in the decision making process related to verifying the validity of the underlying assumptions used to evaluate the feasibility of operators implementing time critical operator actions.

Inspection Report# : 2010006 *(pdf)*

Significance: SL-IV Jul 27, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Submit Complete and Accurate Information for a Requested License Amendment
The team identified a noncited violation of 10 CFR 50.9(a), "Completeness and Accuracy of Information" with multiple examples. Specifically, information supplied to the NRC in License Amendment Request 01-10, dated February 24, 2010, related to the revision of Technical Specification 3.8.1, "AC Sources - Operating," were not complete and accurate in all material respects. Following NRC questioning of the discrepancies the licensee withdrew the amendment request.

The finding is more than minor because the inaccurate information was material to the NRC. Specifically, this information was under review by the NRC to evaluate specific changes to the surveillance requirements associated with the emergency diesel generators. Following management review, this violation was determined to be of very low safety-significance because the amendment request was withdrawn before the NRC amended the facility technical specifications. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated with the traditional enforcement process. Consistent with the guidance in Section IV.A.3 and Supplement VII, paragraph D.1, of the NRC Enforcement Policy, this finding was determined to be a Severity Level IV noncited violation. The finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not adequately evaluate the extent of condition and take appropriate corrective actions after the NRC identified a similar violation.

Inspection Report# : 2010006 *(pdf)*

Significance: G Jul 27, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely and Inadequate Corrective Actions for the Emergency Diesel Generators
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," with two examples for the failure of the licensee to promptly identify and correct nonconforming conditions related to the emergency diesel generators meeting the design basis. The first example resulted from the failure to identify that

instrument inaccuracies were not accounted for in the bounding calculations. The second example involved the failure to identify that the worst case loading calculations exceeded the emergency diesel generator operating load limit.

The failure to promptly identify and correct the design deficiencies associated with the emergency diesel generators was a performance deficiency. This finding is greater than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Inspection Manual Chapter 0609, "Significant Determination Process," the team performed a Phase 1 analysis to analyze the significance of this finding and determined the finding is of very low safety significance because the condition was a design or qualification deficiency confirmed not to result in loss of operability or functionality, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of nontechnical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding had a crosscutting aspect in the area of human performance, decision making, because the licensee did not use conservative assumptions in the decision making process or conduct an adequate effectiveness review to verify the validity of the underlying assumptions for a safety-significant decision.

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 26, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions Following Identification of a Non-conservative Technical Specification
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria XVI, "Corrective Action," after Pacific Gas and Electric failed to implement prompt corrective actions after identifying a nonconservative technical specification. In December 2008, the inspectors identified that the diesel generator loading calculations were inadequate to demonstrate that the design basis were met. On January 9, 2009, the licensee entered this condition into the corrective action program. On April 9, 2009, Pacific Gas and Electric concluded that Technical Specification Surveillance Requirement 3.8.1, "AC Sources – Operating," was not adequate to preserve plant safety and applied the provisions of Technical Specification Surveillance Requirement 3.0.3, and Administrative Letter 98-10, "Dispositioning of Technical Specifications that are Insufficient to Assure Plant Safety." The licensee did not complete the necessary actions to correct the deficient technical specification by submitting an adequate license amendment request. The inspectors concluded the most significant contributor to the finding was a less than adequate engineering evaluation to support the new emergency diesel generator loading profiles following the previous violation. The licensee entered the performance deficiency into the corrective action program as Notification 50232181.

The inspectors determined that the performance deficiency is more than minor because if left uncorrected, the failure to implement prompt corrective actions has the potential to lead to a more significant safety concern. The inspectors concluded the finding was of very low safety significance because the finding was a design deficiency confirmed not to result in the loss of operability or functionality. The finding is associated with the Mitigating Systems Cornerstone. This finding had a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program component because the licensee failed to perform an adequate evaluation of the nonconservative technical specification such that the resolutions address causes and extent of conditions, as necessary [P.1(c)].

Inspection Report# : 2010003 *(pdf)*

Significance: SL-IV Jun 26, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Report a Condition that Could Have Prevented the Fulfillment of a Safety Function
The inspectors identified a noncited violation of 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(B) and after Pacific Gas and Electric failed to submit a required licensee event report within 60 days following discovery of a condition prohibited by the plant technical specifications and a condition that could have prevented the fulfillment of a safety function. On March 9, 2010, Pacific Gas and Electric identified that the degraded voltage protection scheme,

required by Technical Specification 3.3.5, “Loss of Power Diesel Generator Start Instrumentation,” was inadequate to protect operating engineering safety feature pump motors. The licensee concluded that sustained degraded voltage could result in an overcurrent condition affecting equipment powered from the preferred offsite power supply. This condition was required to be reported to the NRC because the degraded voltage protection scheme rendered engineered safety feature pumps inoperable for a period in excess of the allowable technical specification out of service time and the condition resulted in the loss of the degraded voltage protection scheme safety function on all three vital 4 kV power buses.

The inspectors evaluated this finding using the traditional enforcement process because the failure to submit a required event report affected the NRC’s ability to perform its regulatory function. The inspectors concluded the violation was a Severity Level IV because the licensee failed to submit an adequate licensee event report. The inspectors determined that the violation was also a finding under the reactor oversight process because licensee personnel failed to adequately evaluate a condition adverse to quality for operability and reportability, as required by station procedures. The inspectors concluded that the finding is more than minor because the failure to properly evaluate degraded plant equipment for past operability and reportability could reasonably be seen to lead to a more significant condition. The inspectors concluded that the finding had very low safety significance because the failure to adequately evaluate the condition did not result in an actual loss of a system safety function or equipment required by technical specifications, or involve the loss or degradation of equipment specifically designed to mitigate a seismic, flooding, or severe weather initiating event, and did not involve the total loss of any safety function that contributes to an external event initiated core damage accident sequence. This finding has a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program component because the licensee failed to perform an adequate evaluation of the degraded voltage protection scheme such that the resolutions address causes and extent of conditions, as necessary [P.1(c)].

Inspection Report# : 2010003 *(pdf)*

Significance: SL-IV Jun 10, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Update the Final Safety Analysis Report Update with the Current Plant Design Bases
The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.71 after Pacific Gas and Electric failed to include the current plant design basis for the 230kV degraded voltage protection scheme in the Final Safety Analysis Report Update. Title 10 CFR 50.71 (e) states in part, "Each person licensed to operate a nuclear power reactor shall update periodically, as provided in paragraphs (e) (3) and (4) of this ection, the Final Safety Analysis Report Update originally submitted as part of the application for the operating license, to assure that the information included in the report contains the latest information developed. Contrary to the above, on March 14, 2010, the inspectors identified that Pacific Gas and Electric failed to update the Final Safety Analysis Report Update to include complete design basis information for the offsite degraded voltage protection scheme. The inspectors identified that Final Safety Analysis Report Update did not include the design basis for the allowance time delay or the limiting voltage setpoints. The licensee has entered this issue into their corrective action process as Notification 50313763.

Failure to include the current plant design basis for the 230kV degraded voltage protection scheme in the Final Safety Analysis Report Update is a performance deficiency. Using Inspection Manual Chapter 0612, Appendix B, the team determined that this issue was to be ealuated using the traditional enforcement process because the performance deficiency was a failure to meet a requirement or standard, had the potential for impacting the NRC's ability to perform its regulatory function, and the concern was within the licensee's ability to foresee and correct and should have been prevented. The team used the General Statement of Policy and Procedure for NRC Enforcement Actions, Supplement I "Reactor Operations," dated January 14,2 005, to evaluate the significance of this violation. The team concluded that the violation is more than minor because the incorrect Final Safety Analysis Report Update information had a potential impact on safety and licensed activities. Using Supplement I, Section D, Item 6, of the NRC Enforcement Policy, this performance deficiency will be treated as a Severity Level IV violation because the erroneous information was not used to make any unacceptable change to the facility or procedures. Using Inspection Manual Chapter 0609.04, “Phase 1 Initial Screening and Characterization of Findings,” the team concluded that the issue screened as having low safety significance (Green) under the Significance Determination. Because this violation is of very low safety significance and was entered into the licensee’s corrective action program, this violation is being treated as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy. Because the violation included a performance deficiency, the inspectors also concluded the issue was a finding under the Reactor Oversight

Process and had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not adequately evaluate the extent of the condition and take appropriate corrective actions after the NRC identified a similar violation [P.1(c)].

Inspection Report# : 2010007 *(pdf)*

Significance: G Jun 10, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Nonconservative Inputs into Motor Operated Valve Calculation
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control” involving multiple mechanical and electrical errors in documentation associated with torque, thrust, and operation of certain safety related motor operated valves. Specifically, on March 3, 2010, the team identified seven different numerical inputs to the operation, margin, and functionality of certain safety related motor operated valves, which had non-conservative inputs for the mechanical and electrical settings of the motor operated valves. The composite of these nonconservative inputs could have a detrimental effect on the operation of these motor operated valves. Contrary to above, on March 3, 2010, per 10 CFR Part 50, Appendix B, Criterion III, “Design Control”, the licensee did not establish measures to assure that applicable regulatory requirements and the design basis, for those structures, systems, and components were correctly translated into specifications, drawings, procedures, and instructions. The licensee has entered this issue into their corrective action process as Notification 50302437.

The failure of the licensee to correctly translate design basis information into specifications, drawing, procedures, and instructions is a performance deficiency. Using Inspection Manual Chapter 0612, Appendix E, Section 3, Example j, the violation was determined to be more than minor because the engineering calculation error results in a condition where there is now a reasonable doubt on the operability of a system or component. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding was determined to have very low safety significance (Green) because it was not a design issue resulting in loss of function, did not represent an actual loss of a system safety function, did not result in exceeding a technical specification allowed outage time, and did not affect external event mitigation. The inspectors reviewed the finding for crosscutting aspects and none were identified.

Inspection Report# : 2010007 *(pdf)*

Barrier Integrity

Significance: G Mar 27, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Document Design Basis of Containment Fan Cooler Unit Cooling Coil Casings
The inspectors 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, prior to December 15, 2010, the licensee failed to assure that the design basis function of the containment fan cooler unit casings was translated into specifications, drawings, procedures, and instructions. The licensee has entered this violation into the corrective action program as Notification 50384801.

The inspectors determined that the failure to establish measures to assure that the design basis function of the containment fan cooler unit cooling coil casings was translated into specifications, drawings, procedures, and instructions was a performance deficiency. The finding was more than minor because it adversely affected the barrier integrity cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the finding was

determined to be of very low safety significance (Green) because it did not represent a degradation of the barrier function of the control room against a smoke or toxic barrier, an open pathway in the physical integrity of reactor containment, or an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors determined that this finding has a crosscutting aspect in the area of human performance because the licensee failed to ensure that personnel, equipment, procedures and other resources were available to assure nuclear safety by maintaining complete, accurate and up-to-date design documentation.
Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 27, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Design Control for the Auxiliary Building Ventilation System Control Panel Modification
The inspectors reviewed a self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," after Pacific Gas and Electric failed to ensure that the design basis requirements for single failure criteria were correctly translated into auxiliary building ventilation system controls modifications. On January 10, 2011, a single failure of a Unit 2 auxiliary building ventilation Train "A" damper resulted in the loss of system safety function for both trains. The loss of safety function occurred because of a logic error in the programmable logic controllers. The licensee programmed and installed the logic controllers in November 2010 for Unit 1 and in November 2009 for Unit 2. The inspectors identified that the engineering department performed a less than adequate review to identify the single point vulnerability during the modification review process. Pacific Gas and Electric entered this issue into the corrective action program as Notification 50370698, replaced the failed damper, and implemented compensatory actions to mitigate the design deficiency. The licensee plans to implement corrective actions to program the logic controller program consistent with the design basis requirements.

The inspectors concluded that the failure to ensure that the modification met design basis requirements was a performance deficiency. This performance deficiency is more than minor because it was associated with the design control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers and radiological barriers, including the Auxiliary Building, protect the public from radionuclide releases caused by accidents or events. The inspectors determined that the finding had very low safety significance because the finding only represents degradation to the radiological barrier function provided for the auxiliary building. This finding had a crosscutting aspect in the area of human performance associated with work practices because the licensee did not ensure human error prevention techniques, such as self and peer checking, were effectively used in the preparation of the modification.
Inspection Report# : 2011002 *(pdf)*

Significance: G Jun 26, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Unit 1 Containment Concrete Inspections
The inspectors identified a noncited violation of Technical Specification 5.5.16.a.1, "Containment Leakage Rate Testing Program," after Pacific Gas and Electric failed to perform containment concrete inspections in accordance with the requirements of and frequency specified by ASME Section XI code, Subsection IWL. The licensee entered this into their corrective action program as Notification 50310054.

The inspectors concluded that the failure of Pacific Gas and Electric to perform the technical specification required inspections is a performance deficiency. The finding is more than minor because the performance deficiency is associated with the Barrier Integrity Cornerstone human performance attribute and adversely affected the cornerstone objective to provide reasonable assurance that containment physical design barrier protects the public from radionuclide releases caused by accidents or events. The inspectors concluded that the finding is of very low safety significance because the performance deficiency did not represent a degradation of the radiological barrier function provided for the control room, auxiliary building, or spent fuel pool, did not represent a degradation of the barrier function of the control room against smoke or toxic atmosphere, did not represent an actual open pathway in the physical integrity of reactor containment, and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors did not assign a crosscutting aspect to this finding because the performance deficiency did not occur within the past three years and is not reflective of present performance.

Inspection Report# : 2010003 *(pdf)*

Emergency Preparedness

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

Significance: N/A Jul 27, 2010
Identified By: NRC
Item Type: FIN Finding
Problem Identification and Resolution
The team concluded that the notification process facilitates the initiation, tracking, and trending of concerns and that the licensee correctly identified deficiencies that were conditions adverse to quality and entered them into the corrective action program in accordance with the licensee's corrective action program guidance and NRC requirements. Prioritization of issues was appropriate. The licensee was inconsistent in the effectiveness of evaluating issues once they were identified. The team's assessment was there was limited effective interdepartmental communication, a lack of cross discipline peer checks, and a failure to assign the appropriate resources to evaluate cross-departmental problems/issues. As a result, the licensee's performance in resolving problems and effective utilization of operating experience was negatively impacted. The licensee performed effective quality assurance audits and self-assessments, as demonstrated by self-identification of poor corrective action program performance and identification of ineffective corrective actions. However, because of challenges in performing evaluations, the licensee had difficulty properly addressing some of these issues. Overall the team concluded that implementation of the corrective action program was adequate with improvements warranted.

The team determined that site personnel were willing to raise safety issues and document them in the corrective action program. The team noted that workers at the site felt free to report problems to their management and the NRC, but were reluctant to take safety concerns to the Employee Concern Program. Additionally, the function and processes associated with the Employee Concern Program was not understood by a majority of the personnel interviewed.

Inspection Report# : 2010006 *(pdf)*